

**SUBJECTIVITY UNCERTAINTY THEORY OF PREJUDICE: HOW LEARNING  
GOAL MOTIVES REDUCE EXPRESSIONS OF SUBTLE RACIAL BIAS**

**BY**

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## Abstract

When people are in situations when they want to have a positive social interaction with someone of a different race, but also feel uncertain about what exactly they should do or say, they may be more likely to express prejudice. Endorsing a learning goal may have the potential to significantly attenuate and possibly revert the adverse effects of subjectivity uncertainty on prejudice. We sought to examine how target race, subjectivity uncertainty, and goal orientations interact to influence subtle and overt expressions of prejudice. Caucasian-American respondents ( $N = 340$ ) read letters from a White or Black international student. Some were made to feel uncertain about effectively interacting with the student, while others were made to feel confident. Participants were then exposed to learning goals, or performance goals, and wrote letters in response to the target. Confirming predictions, we show that when participants felt uncertain about interacting with a Black target, those who endorsed learning goals displayed less subtle prejudice on multiple indicators ( $p < .045$ ). These findings extend the work on aversive racism theory (Gaertner & Dovidio, 1989), subjectivity uncertainty theory (Landau et al., 2012), and goal orientations theory (Elliot & Dweck, 1988). Implications for improving intergroup relations are discussed.

*Keywords: Prejudice, Racial Bias, Subjectivity Uncertainty, Motivation/goal setting, Prejudice Reduction*

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## Table of Contents

Introduction .....	1
<i>Theories of Prejudice</i> .....	1
<i>Subjectivity Uncertainty Theory</i> .....	4
<i>Goal Orientations Theory</i> .....	9
Study Overview.....	13
Method.....	14
Results.....	20
Discussion.....	30
Theoretical and Practical Implications.....	36
Conclusions.....	37
References.....	39
Footnotes.....	45
Appendices.....	46

## Subjectivity uncertainty theory of prejudice: How learning goal motives reduce expressions of subtle racial bias

In part because of changing social norms, the Civil Rights Act, and other legislative interventions that have made discrimination immoral and illegal, overt expressions of prejudice have significantly declined over the past 35 years (Dovidio, 2001; Dovidio & Gaertner, 2004; Gaertner & Dovidio, 1986; McConahay, 1986). Despite these important societal changes, contemporary forms of prejudice continue to negatively affect the lives of many individuals from disadvantaged groups. Recent research has demonstrated that staggering manifestations of racial prejudice exist in many domains (Richeson & Sommers, 2016; Sommers & Marotta, 2014). A recent study conducted by the Pew Research Center (2016) found that Blacks overwhelmingly reported that members of the African American community experience racial prejudice during police interactions (84%), in academic social interactions (75%), in court interactions (75%), when applying for loans (66%), and in the workplace interactions (64%). Therefore, it is crucial to develop a deeper understanding of how different forms of prejudice manifest, as well as how situational and motivational contexts interact to influence its expression.

In this study, we sought to examine whether people are more likely to express prejudice in situations when they want to have a positive social interaction with someone of a different race, but feel uncertain about what exactly they should do or say.

### *Theories of Prejudice*

Prejudice refers to the negative evaluation of a social group or of an individual that is based on group membership (Crandall & Eschleman, 2003). Due to its subtle nature, contemporary forms of prejudice may be more pernicious than traditional forms. It has been noted that “like a virus that has muted, racism has evolved into different forms that are not only

difficult to recognize but also difficult to combat” (Dovidio & Gaertner, 1998, p. 25). Given that interracial contact may be the most promising avenue to prejudice reduction, it is important to examine factors that undermine positive interracial contact experiences, as well as those that facilitate them (Allport, 1954; Pettigrew & Tropp, 2006; Shelton & Richeson, 2006). Research suggests, however, that interactions with individuals from different racial groups can be distressing and uncomfortable (e.g., Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001; Devine & Vasquez, 1998; Ickes, 1984; Stephan & Stephan, 2001).

In addition to the normal anxiety experienced when strangers encounter one another, interracial interactions are also fraught with anxiety related to the history of oppression and discrimination in American society, as well as motivations to be egalitarian and nonprejudiced (Gaertner & Dovidio, 1986). Despite these motivations, feelings of uncertainty about one’s ability to successfully interact with another person of a different race can lead to downstream negative interpersonal consequences (Landau et al., 2012; Goff et al., 2008; Mendes et al., 2007; Plant & Devine, 2003). Specific goal motivations may have the potential to revert these consequences (Dweck, 1988). Below, I review relevant work from areas of prejudice, subjectivity uncertainty, and goal motivation, and then I outline the hypotheses of the current study.

### *Aversive Racism Theory*

A paradox of American society – a society founded on the principles of equality and egalitarianism, but also built on slavery and racial injustice – is the centerpiece of major theoretical perspectives of contemporary prejudice (Myrdal, 1944). One major theoretical perspective on contemporary prejudice is aversive racism theory (Gaertner & Dovidio, 1989), which explains how the nature of prejudice has changed in the past several decades. Aversive

racism is theory proposes that many people have developed a value system that maintains it is wrong to discriminate against a person because of his or her race, but also unconsciously harbor negative feelings and beliefs about Blacks and other disadvantaged groups due to historical and cultural contexts. As a consequence, individuals experience feelings of discomfort, uneasiness, disgust, and fear that often go unacknowledged (Gaertner & Dovidio, 1986). Rather than resulting in hostility or overt discrimination against Blacks, these feelings lead to cognitive inconsistency and behavioral instability. This is because prejudiced behavior would conflict with held egalitarian beliefs. Thus, unlike the consistent pattern of overt discrimination that might be expected, individuals may or may not unconsciously express subtle forms of prejudice in any given situation. Specifically, when social norms are ambiguous, and do not overtly sanction prejudice, discrimination is significantly more prevalent (Crosby, Bromley, & Saxe, 1998; Gaertner, 1973; Gaertner & Dovidio, 1986).

*Evidence of Aversive Racism Theory.* There has been consistent support for this theory across a range of empirical paradigms (Dovidio & Gaertner, 1998; Gaertner & Dovidio, 1986; Gaertner & Dovidio, 1977). In one study, when it was clear that they were the only ones to help, White Americans were equally likely to help a Black or White victim. But when they believed that others also heard the victims cry for help, White Americans were less likely to help if the victim was Black. Researchers suggested that this occurred because, believing that other bystanders might help, participants could rationalize their decision in nonracial terms (e.g., “There are plenty of other people to help”). This work shows that contemporary prejudice is more likely to be observed in subtle ways, when personal motives can be viewed as ambiguous, and when expressions of prejudiced can be justified through nonracial means (Gaertner & Dovidio, 1977). Specifically, when people are presented in situations where the appropriate



response is clearly defined, they will not exhibit overt discrimination against blacks, as it would directly threaten an egalitarian self-concept. Rather, these negative feelings will be expressed in subtle and indirect ways.

In further support of Aversive racism theory, Dovidio and Gaertner (2000) showed evidence of racial bias against Blacks in a simulated hiring decision. When a Black candidate's credentials clearly qualified him for the position, there was no racial bias against him. However when the qualifications for the candidate for the position were ambiguous, participants were less likely to hire the Black candidate than the White candidate. In another interesting finding of the study, researchers showed that self-reported expressions of prejudice declined significantly across a 10-year period. Taken together, these trends support the aversive racism theory hypothesis that contemporary forms of prejudice manifests in subtle forms, and is often expressed in ambiguously framed situations, and when behavioral expectancies and social norms are unclear (Gaertner, 1973; Gaertner & Dovidio, 1986).

Aversive racism theory explains how prejudice is likely to manifest in subtle and ambiguous forms, but it is important to examine how situational and motivational contexts can influence the experience and the expression of prejudice in interracial interactions.

### *Subjectivity Uncertainty*

Interracial interactions can arouse people's deepest anxieties of appearing prejudiced to others because of uncertainties of being socially incompetent (Dunton & Fazio, 1997; Gaertner & Dovidio, 1986; Plant & Devine, 2003; Vorauer, 2006). Just as intelligence and cultural competence are generally valued, not having or appearing prejudiced is a highly desirable quality for many majority-group individuals living in the United States, in which there is normative pressure to not be racist (Crandall & Eschleman, 2003; Bergsieker, Shelton & Richeson, 2010).

As a result, most people are highly motivated to create a positive impression when interacting with a person from another ethnic group (Richeson & Shelton, 2007). Despite well intentions and conscious attempts to try to behave in line with their egalitarian values, people often fall prey to the influence of prejudice and unknowingly discriminate against others in cross-race encounters (Crosby, Bromley, & Saxe, 1998; Dovidio et al; 1997; Vorauer, 2006).

It is likely that many people have less experience with people from other ethnic and racial groups than with people from their own. Those with limited experience with out-group members may be unsure of what behavior will be positively received by out-group members. During such interracial interactions, individuals may be uncertain of not only their own behavioral options but also those of their potential interaction partner (Richeson & Shelton, 2005; Richeson & Shelton, 2007). That is, they are unlikely to have developed a clear guide of how to present themselves as likeable and competent in interracial interactions. This uncertainty can result in negative beliefs that one's behavior will not lead to a given outcome, and that one is not capable of performing the requisite behavior (Bandura, 1977). These beliefs can then result in feelings of anxiety in interracial interactions (Britt et al., 1996; Devine, Evett, & Vasquez-Suson, 1996). Ironically, efforts to have positive interactions with others of a different race can actually backfire and lead to undesirable nonverbal behavior, such as behavioral avoidance, freezing behaviors, and direct antagonizing of the interaction partner (Goff, Steele, & Davies, 2008; Plant & Devine, 2003; Trawalter, Richeson, & Shelton, 2009).

*Subjectivity Uncertainty Theory.* One theoretical framework that could explain this paradox of how good intentions can lead to undesirable intergroup behavior is subjectivity uncertainty theory (SUT; Landau et al., 2012). SUT posits that people are motivated to see themselves as capable of positively relating to others. However, people can sometimes feel

uncertain about their ability to effectively navigate – that is know, predict, and understand – others' subjectivity, defined as their mental states (e.g., beliefs, goals, and judgments). Focusing on these difficulties within a social interaction can increase feelings of subjectivity uncertainty – uncertainty about one's ability to adequately know or influence a target in order to successfully relate to him or her. To manage this uncertainty, people engage in dehumanization processes of the individual who they are motivated to interact with, whereby they downplay the person's subjectivity attributes and instead focus instead on attributes perceived as easier to understand and navigate. SUT therefore gives rise to a somewhat counterintuitive theoretical explanation of intergroup dehumanization. Where it would seem that focusing on one's ability to navigate and understand a target would lead to more positive interactions, this focus can trigger compensatory simplification of those targets, which can lead to more negative intergroup interactions.

*Evidence of SUT.* Experimental research shows that people dehumanize others in situations where they desire successful interpersonal interactions, but are uncertain about their requisite ability to navigate the targets' subjectivity. In one experiment, male who participants reflected on the uncertainty (vs. confidence) of navigating women's subjectivity, men showed greater sexual-objectification of female targets to the extent that they desired successful interactions with women. In another study, participants who acted as employers in a workplace scenario made uncertain (vs. confident) about their managerial ability felt less confident about their ability to navigate employees' subjectivity. Consequently these participants were more likely to value the employees in terms of dehumanizing workplace attributes rather than the qualities that make up the rest of their personality. This work suggests that when individuals are motivated to interact with a target, but feel uncertain about

successfully interacting with him or her, they are more likely to exhibit negative intergroup behaviors (Landau et al., 2012).

*Extending SUT.* Prior tests of SUT have focused on the effects of subjectivity uncertainty on the dehumanization of out-group members, such as women and employees (Landau et al., 2012). Beyond the interpersonal realm, SUT's account may even explain the motivation behind dehumanization in intergroup contexts. Specifically, it remains an open question of whether contexts of subjectivity uncertainty can, at least in part, explain how both subtle and overt expressions of prejudice manifest in interracial interactions.

There is some empirical work, however, that suggests that interacting with an unfamiliar group member can cause perceivers to feel a sense of uncertainty, negative affect, and anxiety during social interactions. Mendes and colleagues (2008) found that social interactions with unfamiliar strangers increased participants' physiological threat states, whereas interactions with familiar partners did not. Researchers argued that decreased familiarity with a stranger increased feelings of uncertainty, and caused a diminished sense of knowing the appropriate social script to follow. These results suggest that uncertainty about interacting with someone who is unfamiliar can increase physiological threat states, and perhaps also expressions of prejudice. This may be due to increased feelings of discomfort and anxiety when interacting with members of other groups, also known as intergroup anxiety (Stephan & Stephan, 1985).

*Uncertainty and Intergroup Anxiety.* Intergroup anxiety appears to be a diffused and generalized affective consequence of the cognitive problem of subjectivity uncertainty, whereby individuals who are uncertain in how to have a successful interaction with someone of a different race experience greater emotions of intergroup anxiety. Drawing on previous theorizing from both the prejudice and social anxiety literatures, Plant and Devine (2003) posit that a lack of

prior experiences with Blacks creates uncertainty about the interracial interaction and the interaction member, which results in intergroup anxiety and avoidance behaviors. Researchers conducted a study where White Americans came to the lab for a study involving either an interethnic or a same-race interaction. Ostensibly because of technical difficulties, participants were asked to reschedule their session for a later date. Participants who were highly anxious about interacting with a Black partner were three times more likely to not show up to the later interaction compared those who believed they would be interacting with a White partner. This research shows how situational uncertainty (i.e., experiencing technical difficulties) can increase feelings of intergroup anxiety, which can then result in avoidance of the intergroup interaction altogether.

Similarly, in a recent theoretical review, Stephan (2014) suggested that other situational factors of subjectivity uncertainty could increase intergroup anxiety. For example, merely participating in an unstructured interracial interaction, or even the presence of linguistic barriers, could increase people's experience of intergroup anxiety and feelings of uncertainty about how one should behave. To the extent that expectations of the social interaction are uncertain, intergroup anxiety is likely to be anticipated, and downstream intergroup consequences are likely to occur (Cottrell & Neuberg, 2005; Plant & Devine, 2003; Smith, 1993; Stephan, 2014; Stephan & Stephan, 2001).

There is growing evidence that shows the detrimental effects of intergroup anxiety on intergroup contact. For example, multiple researchers have found that intergroup contact, particularly the quality of previous contact with out-group members, is strongly associated with intergroup anxiety (e.g., Britt, Boniecki, Vesio, Biernat, & Brown, 1996; Islam & Hewson, 1993, Stephan & Stephan, 1985). Intergroup anxiety is also associated with increased negative

emotions (Crandall & Eshleman, 2003), simplified information processing and reduced attention to disconfirming information (Wilder & Shapiro, 1989). Intergroup anxiety is also associated with negative intergroup judgments including prejudice (Bizman & Yinon, 2001), low perceived variability (Islam & Hewstone, 1993), and unwillingness to engage in future contact (i.e., informal group segregation; Greenland, Masser & Prentice, 2001). In contrast, a reduction in intergroup anxiety can facilitate positive intergroup contact. Theoretically and empirically, the dominant approach taken to combat the adverse effects that anxiety has on intergroup relations has been an anxiety reduction approach (e.g., Pettigrew & Tropp, 2006). One way to reduce intergroup anxiety from experienced uncertainty is to examine how motivational goals influence the way that people enter into and experience interracial interactions.

### *Goal Orientations Theory*

Over the past two decades, goal orientations theory has been used increasingly by researchers to understand the role of psychological processes in eliciting different cognitive and motivation patterns within the achievement domain (Ames, 1992; Dweck, 1986; Dweck & Leggett, 1988; Elliot & Dweck, 1988). Goal orientations are integrated and organized patterns about the beliefs about the general purposes for goal attainment, and the standards or criteria that will be used to judge a successful performance. Two classes of goal orientations have proven to be helpful in understanding adaptive and maladaptive patterns of behavior: learning-oriented goals and performance-oriented goals (Dweck, 1986).

Learning-oriented goals are defined in terms of a motivation for understanding, mastering tasks according to self-set standards, and self-improvement. Examples of learning goals include developing new skills, improving or developing competence, trying to accomplish something challenging, or trying to gain a new insight. In contrast, performance-oriented goals represent a

focus on demonstrating competence or ability, and how ability will be judged relative to others. Examples of performance goals include trying to align behavior with normative standards, attempting to show off to others, or using causal comparative standards or striving to avoid the negative judgments of others. One essential assumption of goal orientations theory lies in the idea that motivational goals are important because they function as mechanisms that activate certain types of cognitive processing. As described by Elliot and Dweck (1988), “each goal, in a sense, creates and organizes its own world - each evoking different thoughts and emotions and calling forth different behaviors” (p.11). These orientations lead to different mastery orientations, associations of outcomes and ability, and intrinsic motivations.

*Initial evidence on Goal Orientations Theory.* In a 1986 study, Carol Dweck found that students who endorsed performance goals tended to display a clear helpless pattern in response to task difficulty, were more likely to condemn their ability, and were more likely to disengage from the task. In sharp contrast, students who endorsed learning goals were more likely to show a clear mastery-oriented pattern in response to difficulty, more likely to remain focused on the task, and were more likely to maintain effective problem-solving strategies and task persistence. What is interesting is that perceived uncertainty about one’s ability to complete the task moderated these effects. Some children were told at the start of the study that they had the ability to do really well at the task. Others were made doubtful and uncertain of their level of ability. For students who endorsed performance goals, this effect made a real difference: students who were confident in the ability to successfully complete the task demonstrated mastery-oriented behavior. However, students who were uncertain of their ability demonstrated a helpless-oriented response in their behavior. It made no difference for the students who endorsed learning goals, who demonstrated mastery oriented-behavior regardless of perceived ability. Thus, perceived

uncertainty about one's ability at performing the task changed the relationship between performance goals and behavior associated with task mastery.

Other research on the association of outcomes with perceptions of ability shows that people who endorse performance goals are more likely to interpret negative outcomes in terms of a lack of skill (Dweck & Leggett, 1988; Elliot & Dweck, 1985), and also more likely to view negative outcomes as predictive of continued failure (Anderson & Jennings, 1980). As a result, performance goals often lead to defensive withdrawal of effort and decreased deliberation in the face of obstacles (Covington & Omelich, 1978; Elliot & Dweck, 1985). In contrast, those who endorse learning goals are more likely to use obstacles as cues to increase their effort or to analyze or vary their strategies, which often result in improved performance in the face of difficulties (Ames, 1984; Elliot & Dweck, 1985). Compared to those who endorse performance goals, those who endorse learning goals make more adaptive attributions in order to understand their failures, they report greater feelings of pride and satisfaction in success, and express less failure anxiety (Ames, 1992). Other work shows that the more people focus on learning or progress, the greater the likelihood of improving their strategies under difficulty, uncertainty, or failure (Bandura & Schunk, 1981; Diener & Dweck, 1978; Elliot & Dweck, 1985).

*Extending Goal Orientations Theory.* There is growing evidence that the conceptualization of goal orientations is not only relevant for understanding behavior on cognitive tasks, but also in social domains. Research suggests that many individuals enter interracial interactions with performance goals. As mentioned previously, many Whites are focused on demonstrating their egalitarian racial attitudes (Shelton & Richeson, 2006; Shelton et al., 2006). Performance goals generally dictate expectations of egalitarian attitudes and the self-monitoring one's behavior for actions and remarks that might potentially be offensive, which can



lead to opposite reactions than intended. In one study, the more Whites were concerned about being seen as prejudiced by minority-group members, the less enjoyment they anticipated in cross-race interactions (Vorauer et al., 1998). Such concerns may even make some people (particularly those low in prejudice) more likely to “choke” in an interracial interaction—to appear colder, more distant, and less responsive (Vorauer & Turpie, 2004). In another set of studies examining the ironic effect of performance concerns, Whites who were more concerned about appearing racist put greater the physical distance between themselves and Black conversation partners compared to Whites who did not have these concerns (Goff, Steele, & Davies, 2008).

Empirical research has demonstrated that although Whites are motivated to successfully interact with Blacks, concerns with being evaluated positively can undermine positive interracial contact experiences (Richeson et al., 2007), the development of interethnic friendships, and the attenuation of prejudice (Shelton, Richeson, & Vorauer; 2006). It follows from this work that because of evaluative concerns that cause individuals to “choke” under pressure when engaging in an interracial interaction, endorsing performance goals may lead to increased expressions of prejudice, when people are uncertain of how to behave in interracial interactions. We suggest that despite the fact that performance orientations that promote normative standards to be nonprejudiced, individuals will be more likely to express prejudice when they feel uncertain about their ability to navigate an interracial interaction, particularly in subtle forms when standards for interaction are ambiguous.

In contrast, learning orientations can improve how people feel when interacting with someone from a different background. Rather than perceiving intergroup interactions as threatening, people could reconstruct them as opportunities for learning about cultural

competencies, developing interpersonal skills, or getting to know one's out-group interaction partner (Garcia & Crocker, 2008; Murphy, Richeson, & Molden, 2011; Trawalter & Richeson, 2006). People could learn, for example, what it is like to see the world from a different point of view. When focusing on learning, individuals are more likely to be comfortable and interested in intergroup contexts (Migacheva & Tropp, 2013). Learning goals may be the key to escaping the evaluative and self-image concerns that are particularly detrimental to positive intergroup dynamics (Vorauer, 2012). It follows that a learning goal orientation may reduce people's subtle expressions of prejudice when they are uncertain of how to behave in interracial interactions. We predict that learning goals may have the potential to significantly attenuate and possibly revert the adverse effects of subjectivity uncertainty.

### Study Overview

The present study was designed to examine whether endorsing a learning goal orientation reduces people's subtle expressions of prejudice, when they are made to feel uncertain about navigating an interracial interaction. In this study we examined White-Americans expressions of prejudice in the context of a helping situation of an incoming international student. We sought to examine the effects of target race, subjectivity uncertainty, and goal attribution on subtle and overt expressions of prejudice. We predicted that when participants are made to feel uncertain about interacting with a Black target, and are exposed to a learning goal-orientation, they would express less subtle prejudice compared to those who are exposed to a performance goal-orientation. Although the predictions for those who were paired with Black partners were clear, we were agnostic regarding whether those paired with White partners would reveal the same patterns. Thus, a secondary question of this research was whether intergroup interaction effects were symmetrical - occurring similarly for those who wrote to Black targets and those who wrote

to White targets - or asymmetrical - occurring only for Black targets in interracial interactions.

## Method

### *Design*

We utilized a 2 (Target Race: White Target vs. Black Target) x 2 (Subjectivity Uncertainty: Certainty vs. Uncertainty) x 2 (Goal Orientation: Performance Goals vs. Learning Goals) between subjects experimental design to assess individuals expressions of prejudice.

### *Participants*

In absence of prior data to inform sample size requirements, we recruited 340 Caucasian-American participants ( $M_{\text{Age}} = 35.91$  years,  $SD = 11.86$ ) from Amazon's Mechanical Turk, who were compensated \$1.00 for their time (50% female, 49.4% male, .6% other). 18 participants were removed from the analysis (6 participants were removed for reporting that they were distracted during completing the study, 3 participants were removed for having difficulty with the language of the study due to English being a second language, 4 participants for completing the study on a smartphone, and 5 participants for reporting a racial background that was not White). This left 322 participants for the final analysis.

### *Procedure*

Participants were instructed to read through a consent form and to click to the next page if they agreed to participate, or to close the Internet browser if they wished to terminate their participation. Participants were assured that all of their responses were to be kept confidential, and that they should feel free to respond to all questions with whatever feeling comes naturally.

As a cover story, participants were told that the purpose the study was find new ways to welcome incoming international students to the University of Kansas (KU), and help them adjust

to cultural life in America. Participants were asked to read a letter ostensibly from an incoming KU international student, and then write a letter in response to welcome this student to the KU campus. Participants were told that the computer picked a letter for them to read at random from all the letters written this year by international students, and to “imagine what it would be like to interact with this student face-to-face.”

*Target Race Manipulation.* Participants were randomly assigned to receive one of two letters (*Appendix A*) ostensibly written by the incoming International student. Half of participants viewed a male White target, and half viewed a male Black target. The letter read the same information:

*“Hello, My names Stefan, and I am incoming international student in Fall 2016 at University of Kansas. I am from Trinidad and Tobago... I look forward to learning more about America. I am starting to like more American music and American films... I like to read sci-fi books and hang out with friends. I heard Kansas is famous for basketball and BBQ's. I am happy to be hearing more about the America culture. Best wishes, Stefan”*

*Subjectivity Uncertainty Manipulation.* Participants were then instructed to keep in mind their initial impressions of the student, as they would soon be asked to write a letter in response to him, but that they would first read that they should “keep in mind a few important things about how people feel about interacting with strangers.” Participants were then randomly assigned to receive one of two writing prompts (subjectivity uncertainty vs. subjectivity certainty). The writing prompts were adapted from previous research manipulating subjectivity uncertainty (Keefer et al., 2014; Landau et al., 2012). Participants in the *subjectivity uncertainty* condition received the following writing prompt:

“Often, our interactions with strangers can go much worse than we think. For example, a recent study conducted by researchers at Stanford University shows that many people report stress when interacting with strangers because they are unsure of how to “connect” with them – that is, when they interact with someone new, they aren’t sure what to do or what to say. This study shows that people are often afraid of doing or saying the wrong thing at the wrong time, and that striking up a conversation with someone new might be much more difficult than we think. Please take a few minutes to think about TWO things that come to mind that might make you, or many people, feel uncomfortable when interacting with Stefan. In the space below, write a couple sentences about each uncertainty, and how students can feel nervous or uneasy to interact with Stefan.”

An example of a participant’s response in the subjectivity uncertainty condition was, “I don't know much about Trinidad and Tobago so I'm unaware of the culture and behaviors that may or may not be offensive. I'd like to come across as welcoming and friendly to make Stefan feel at ease, but again with the lack of cultural awareness I may be more offensive than helpful.” Participants in the *subjectivity certainty* condition received the following writing prompt:

“Often, our interactions with strangers can go much better than we think. For example, a recent study conducted by researchers at Stanford University shows that many people report stress when interacting with strangers. However, "connecting" with others is quite easy. When interacting with someone new, many people underestimate their communication skills, and are actually better at thinking of what to say. This study shows that people should be more confident about interacting with others, because striking up a conversation with someone new is much easier than we think. Please take a few minutes to think about TWO things that come to mind that might make you, or many people, feel

more comfortable about with Stefan. In the space below, write a couple sentences about each thing that comes to mind, and how it could make students more confident or relaxed about interacting with Stefan.”

An example of a participant’s response in the subjectivity certainty condition was, “We could talk about what he likes to do in his free time and see if there are any similarities. We can also talk about which foods he likes to eat because that is a topic that can easily be talked about.”

*Subjectivity Uncertainty Manipulation Check.* As a manipulation check, participants completed a four-item measure of felt subjectivity uncertainty with regard to the target they wrote about. Higher scores indicated greater felt subjectivity uncertainty. Participants indicated their agreement (1 = *Strongly disagree* – 7 = *Strongly agree*) on items such as, “I am confident that I would know how to interact with Stefan,” “I am unsure that I really understand Stefan,” “Many people would know how to talk with Stefan (reverse coded),” and “I think many people would have a difficult time understanding Stefan.” Responses were averaged ( $M_{\text{Grand}} = 5.24$ ,  $S.D. = .96$ ,  $\alpha = .55$ ).

*Goal Motivation Manipulation.* Participants were then asked to prepare a letter in response to the student welcoming him to the KU campus. They were instructed to “talk about American culture, tips from your own experience you may think could help him, etc. Write as much as you would like.” Participants were randomly assigned to receive one of two goals orientations with regards to writing the letter. Half of participants read about a performance goal orientation and half read about a learning goal orientation. The writing prompts were based on previous conceptualizations of learning and performance goal orientations (Chiu, Hong, & Dweck, 1997; Dweck, 1996; Hong et al., 1995; Kaplan et al., 2007). Participants in the *performance goal* condition read the following instructions:

“The goal of this letter is to welcome new international students into the community and increase the number of international students that apply to the University. Hosting more international students will allow us to perform better than the surrounding universities in our area and rank higher on the national diversity list. Remember, this is an exercise in helping KU show others that we are high in campus diversity and multicultural integration. We’re trying to show others that we can provide a high quality education for these students. Think of this interaction as a way to help KU perform better to recruit more international students. When writing your letter, just focus on demonstrating diversity values as best as you can, and welcome this challenge as an opportunity to help KU look like a great campus.”

Participants in the *learning goal* condition read the following instructions:

“The goal of this letter is to welcome new international students into the community and to teach KU students, faculty, and the greater community successful communication strategies. Hosting more international students will allow us to improve campus diversity and cultural tolerance. Remember, this is an exercise in practicing communication skills and developing multicultural integration. These skills develop over time through practice and effort. We’re trying to learn how we can provide a high quality education for these students. Think of this interaction as a learning experience (not just looking smart or intelligent). When writing your letter, focus on learning as much as you can, and welcome this challenge as an opportunity to stretch your skills and become better at communicating with others.”

*Goal Manipulation Check.* To measure the effect of the manipulation, we administered a manipulation check for goal attribution after dependent measures were completed. For the

following two items, participants indicated their agreement (1 = *Strongly disagree* – 7 = *Strongly agree*) with a learning goal and a performance goal manipulation check. For a learning goal manipulation check, participants responded to “When writing your letter, how concerned were you about learning communication strategies?” For a performance goal manipulation check, participants responded to “When writing your letter, how concerned were you about making KU look like a diverse and culturally tolerant campus?”

After the letter writing task, participants then completed dependent measures that were ostensibly designed as “questionnaires to help the KU International program plan for future initiatives.”

*Dependent Measures.* Our main outcome variable was prejudice. Dovidio and Fazio (1992) proposed that different aspects of prejudicial attitudes should predict deliberate and spontaneous behaviors. Therefore, we both measured subtle and overt measures of prejudice.

We measured overt prejudice using a seven-item scale assessing *willingness to interact with the target* (Crandall, 1991). Higher scores indicated less willingness to engage in social contact of varying degrees of closeness with the target (*See Appendix B*). Participants indicated their agreement (1 = *Strongly disagree* – 7 = *Strongly agree*) to items such as “This is the kind of person I tend to avoid,” and “I would like this person to move into my neighborhood (reverse coded).” Responses were averaged ( $M_{\text{Grand}} = 5.24$ ,  $S.D. = .96$ ,  $\alpha = .88$ ).

To assess subtle expressions of prejudice, we evaluated participants’ response letters for *word count* (with lower word count indicating greater manifestations prejudice), and the *overall time* participants spent writing the letter (with lower time spent on writing the letter indicating greater manifestations of prejudice). We also had two independent coders, who were blind to condition, evaluate the letters for *overall content helpfulness*, with increased helpfulness scores



indicating lower manifestations of prejudice (*See Appendix C*). Two female KU students (of White and Black racial background) were trained to code the letters for “overall helpfulness” from (0- Not at All helpful, 1-Somewhat helpful, 2-Very helpful). Training consisted of a group instructional session, followed by both coders scoring the same participants and determining reliability across those participants. Inter-rater reliability was high ( $\alpha = .84$ ).

As an additional measure of subtle expressions of prejudice, we asked participants to allocate funds from a recent federal grant to a list of KU programs (*See Appendix D*). Participants read “in the previous section, you received information about *one* KU program, but now we're interested in what you think about next year's budget for *other* campus programs. If you were asked to allocate the funds from a recent federal grant to the KU programs listed below, what percent of the grant should go to each program?” Participants were asked to indicate on a slider bar a percentage of how much scholarship money should be allocated for international students relative to other campus programs (Greek Life, Veterans/Military Students, Natural History Museum of Art, Parks and Recreation). Lower funds allocated to the target student group indicated greater expressions of prejudice.

Participants then completed demographic measures, and were debriefed regarding the nature of the study.

## Results

### *Manipulation Checks*

*Subjectivity uncertainty.* First, I assessed the strength of the manipulation of subjectivity uncertainty by creating an average score based on the responses of the four manipulation check items ( $\alpha = .56$ ). An independent samples t-test revealed that participants who were induced to write about things that made them certain about navigating the social interaction ( $M = 5.74$ ,  $SD =$

.088) reported feeling more confident about interacting with the target compared to those induced to write about things that made them feel uncertain about navigating the social interaction ( $M = 5.05$ ,  $SD = .084$ ),  $F(1, 321) = 32.85$ ,  $p < .001$ ,  $d = .038$ . This effect suggests that the manipulation specifically increased uncertainty about one's ability to interact with the target. Target race did not influence participants' feelings of uncertainty about one's ability to interact with the target,  $F(1, 318) = 1.003$ ,  $p = .31$ . Because participants completed the manipulation check for subjectivity uncertainty before the goal manipulation, the effect of goal manipulation on feelings of uncertainty about interacting with the target was not assessed.

*Goal Orientation.* Next, I assessed the strength of the manipulation checks of goal orientation. An independent samples t-test revealed that participants exposed to a performance goal ( $M = 5.736$ ,  $SD = .17$ ) were more "concerned about making KU look like a diverse and culturally tolerant campus" than participants exposed to a learning goal ( $M = 4.89$ ,  $SD = .16$ ),  $F(1, 314) = 6.50$ ,  $p = .01$ ,  $\eta^2 = .02$ . This effect suggests that the manipulation specifically increased performance goal motivations. Target race did not influence performance goal motivations,  $F(1, 318) = .69$ ,  $p = .40$ . Subjectivity uncertainty did not influence performance goal motivations,  $F(1, 318) = 1.15$ ,  $p = .22$ .

In contrast, participants exposed to a learning goal ( $M = 5.14$ ,  $SD = .16$ ) were more "concerned about learning communication strategies" than participants exposed to a performance goal ( $M = 4.53$ ,  $SD = .17$ ),  $F(1, 314) = 34.48$ ,  $p < .001$ ,  $\eta^2 = .099$ . This effect suggests that the manipulation specifically increased learning goal motivations. Target race did not influence learning goal motivations,  $F(1, 318) = 1.30$ ,  $p = .256$ . Subjectivity uncertainty did not influence learning goal motivations,  $F(1, 318) = .30$ ,  $p = .582$ .

### *Main Analyses*

I submitted scores on dependent measures to a four-way analysis of variance (*ANOVA*) to examine whether endorsing a learning goal orientation reduces Whites' expressions of racial prejudice, when initially made to feel uncertain about interacting with a student from another country.

In line with aversive racism theory, I first sought to examine whether participants would show evidence of racial prejudice primarily on subtle behavior measures. To answer this question, I examined the main effects of target race on the dependent measures of prejudice. To see the correlations of the dependent measures split by target race, see *table 1*.

#### *Willingness to Interact*

*Target Race.* As expected, there was no main effect found for target race on willingness to interact with the target,  $F(1, 321) = .19, p = .665$ .

*Subjective Uncertainty.* There was no main effect found for subjective uncertainty on willingness to interact with the target,  $F(1, 321) = 2.35, p = .126$ .

*Goal Orientation.* There was a main effect found for goal orientation on willingness to interact with the target,  $F(1, 314) = 5.62, p = .018, n^2 = .18$ . Participants who endorsed learning goals ( $M = 5.20, SD = .07$ ) reported less willingness to interact with the target compared to participants who endorsed performance goals ( $M = 5.45, SD = .07$ ).

*Target Race x Subjective Uncertainty.* The summary of the analysis indicates that the two-way interaction of target race and subjective uncertainty on willingness to interact with the target was not statistically significant,  $F(1, 321) = .40, p = .544$ .

*Target Race x Goal Orientation.* The two-way interaction of target race and goal orientation on willingness to interact with the target was statistically significant,  $F(1, 321) = 4.5, p = .035, n^2 = .14$ . Among participants who wrote to a White target, those who endorsed

learning goals ( $M = 5.01$ ,  $SD = .11$ ) reported less willingness to interact with the target compared to participants who endorsed performance goals ( $M = 5.55$ ,  $SD = .11$ ),  $F(1, 317) = 9.753$ ,  $p = .002$ .

*Target Race x Subjective Uncertainty x Goal Orientation.* The summary of the analysis indicates that the three-way interaction on willingness to interact with the target was statistically significant,  $F(1, 321) = 6.58$ ,  $p = .01$ ,  $\eta^2 = .19$ . Therefore, I examined the two-way analyses (subjectivity uncertainty x goal orientation) at each level of target race. This compared the two levels of target race comparing target uncertainty and goal orientation using a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in *Table 3* and *Figures 1a and 1b*. Pairwise comparisons using Fisher's least significant difference revealed that when participants wrote to a White target, and felt uncertain about the social interaction, those who endorsed performance goals ( $M = 5.61$ ,  $SD = .15$ ) reported greater willingness to interact with the target compared to those who endorsed learning goals ( $M = 4.77$ ,  $SD = .15$ ),  $p < .001$ .

For participants who wrote to a White target, and who endorsed learning goals, those felt confident ( $M = 5.36$ ,  $SD = .14$ ), expressed less willingness to interact with the target, compared to participants who felt uncertain about the social interaction ( $M = 4.77$ ,  $SD = .15$ ),  $F(1, 313) = 7.862$ ,  $p = .005$ . There were no significant pairwise comparisons on willingness to interact for those who wrote to a Black target.

I then examined the two-way analyses (target race x goal orientation) at each level of subjectivity uncertainty. This compared the two levels of subjective uncertainty (subjective uncertainty vs. subjective certainty) comparing target race and goal orientation using a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in

*Table 3 and Figures 2a and 2b.*

Among participants who felt uncertain about the interaction, and who wrote to White targets, those who endorsed performance goals ( $M = 5.61$ ,  $SD = .15$ ), expressed greater willingness to interact with the student, compared to those who endorsed learning goals ( $M = 4.77$ ,  $SD = .15$ ),  $F(1, 313) = 16.02$ ,  $p < .001$ . Among participants who felt uncertain about the interaction, and who endorsed performance goals, those who wrote to White targets ( $M = 5.61$ ,  $SD = .15$ ) reported greater willingness to interact with the student, compared to participants who wrote to Black targets ( $M = 5.22$ ,  $SD = .15$ ),  $F(1, 313) = 3.52$ ,  $p = .06$ . Among participants who felt uncertain about the interaction, and who endorsed learning goals, those who wrote to White targets ( $M = 4.77$ ,  $SD = .15$ ) reported lower willingness to interact with the student, compared to participants who wrote to Black targets ( $M = 5.39$ ,  $SD = .14$ ),  $F(1, 313) = 8.97$ ,  $p = .003$ .

#### *Word Count*

*Target Race.* Overall, there was a marginally significant main effect found for target race on the word count of the letter written,  $F(1, 321) = 3.54$ ,  $p = .058$ ,  $\eta^2 = .011$ . There was a pattern that suggested that participants who wrote to a White target ( $M = 108.83$ ,  $SD = 4.26$ ) had a higher word count for the letter compared to participants who wrote to a Black target ( $M = 97.64$ ,  $SD = 4.13$ ).

*Subjective Uncertainty.* There was no main effect found for subjective uncertainty on word count,  $F(1, 321) < .01$ ,  $p = .963$ .

*Goal Orientation.* There was no main effect found for goal orientation on word count,  $F(1, 321) = .39$ ,  $p = .532$ .

*Target Race x Subjective Uncertainty.* There was no two-way interaction effect found for target race and subjective uncertainty on word count,  $F(1, 321) = .007, p = .932$ .

*Target Race x Goal Orientation.* There was no two-way interaction effect found for target race and goal orientation on word count,  $F(1, 320) = .48, p = .49$ .

*Subjective Uncertainty x Goal Orientation.* There was no two-way interaction effect found for subjective uncertainty and goal orientation on word count,  $F(1, 321) = .133, p = .25$ .

*Target Race x Subjective Uncertainty x Goal Orientation.* There was no three-way interaction effect found for total word count,  $F(1, 321) = .138, p = .721$ .

#### *Time Spent On Letter*

*Target Race.* There was a marginally significant main effect found for target race on time spent on the letter  $F(1, 321) = 2.967, p = .086, \eta^2 = .01$ . There was a pattern that suggested that participants who wrote to a White target ( $M = 268.35$  seconds,  $SD = 16.65$ ) spent more time on the letter compared to participants who wrote to a Black target ( $M = 227.83$  seconds,  $SD = 16.14$ ).

*Subjective Uncertainty.* There was no main effect found for subjective uncertainty on time spent on the letter,  $F(1, 321) = .59, p = .443$ .

*Goal Orientation.* There was no main effect found for goal orientation on time spent on the letter,  $F(1, 321) = .26, p = .108$ .

*Target Race x Subjective Uncertainty.* There was no two-way interaction effect found for target race and subjective uncertainty on time spent on letter,  $F(1, 321) = .12, p = .911$ .

*Target Race x Goal Orientation.* There was no two-way interaction effect found for target race and goal orientation on time spent on letter,  $F(1, 320) = .90, p = .441$ .

*Subjective Uncertainty x Goal Orientation.* There was a significant two-way interaction

effect found for subjective uncertainty and goal orientation on time spent on letter,  $F(1, 321) = 4.87, p = .028, n^2 = .022$ . Among participants who wrote felt confident about the interaction, those who endorsed learning goals ( $M = 206.49, SD = 22.50$ ) spent less time on the letter compared to participants who endorsed performance goals ( $M = 304.94, SD = 25.34$ ),  $F(1, 317) = 8.44, p = .004$ . Among participants who endorsed performance goals, those who felt certain about the social interaction ( $M = 206.49, SD = 22.50$ ) spent more time on the letter compared to participants who endorsed performance goals ( $M = 304.94, SD = 25.34$ ),  $F(1, 317) = 5.41, p = .021$ .

*Target Race x Subjective Uncertainty x Goal Orientation.* The summary of the analysis indicates that the three-way interaction was statistically significant,  $F(1, 321) = 4.66, p = .032, n^2 = .015$ . Therefore, I conducted a two-way analyses (subjectivity uncertainty x goal orientation) at each level of target race. This compared the two levels of target race (White target vs. Black target) comparing subjectivity uncertainty and goal orientation using a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in *Table 2* and *Figure 3*.

When participants wrote to a White target and felt certain about the social interaction, those who endorsed learning goals ( $M = 193.66$  seconds,  $SD = 31.82$ ) spent less time writing the letter compared to participants who endorsed performance goals ( $M = 362.05$  seconds,  $SD = 35.94$ ),  $F(1, 313) = 12.30, p = .001$ .

When participants who wrote to a White target and endorsed performance goals, those who felt certain ( $M = 362.05$  seconds,  $SD = 32.24$ ) spent more time writing the letter compared to participants who felt uncertain about the social interaction ( $M = 286.44, SD = 33.01$ ),  $F(1, 313) = 7.34, p = .007$ .

When participants wrote to a White target and endorsed learning goals, those who felt

confident ( $M = 193.66$  seconds,  $SD = 31.85$ ) spent less time writing the letter compared to participants who felt uncertain about the social interaction ( $M = 286.44$ ,  $SD = 30.08$ ),  $F(1, 313) = 4.09$ ,  $p = .044$ . There were no significant comparisons for those who wrote to a Black target on total time spent on letter.

I also conducted a two-way analyses (target race x goal orientation) at each level of subjective uncertainty. This compared the two levels of subjective uncertainty (subjective uncertainty vs. subjective certainty) comparing target race and goal orientation using a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in *Table 2* and *Figure 2*.

Among participants who felt confident about the social interaction, and who wrote to a White target, those who endorsed performance goals ( $M = 362.05$ ,  $SD = 35.89$ ) spent more time on the letter, compared to participants who endorsed learning goals ( $M = 103.66$ ,  $SD = 31.81$ ),  $F(1, 313) = 12.33$ ,  $p = .001$ .

Among participants who felt confident about the social interaction, and who endorsed performance goals, those who wrote to a White target ( $M = 362.05$ ,  $SD = 35.89$ ) spent more time on the letter, compared to participants who wrote to Black targets ( $M = 249.50$ ,  $SD = 35.36$ ),  $F(1, 313) = 4.99$ ,  $p = .026$ .

#### *Content helpfulness*

*Target Race.* There was a significant main effect for target race on content helpfulness,  $F(1, 321) = 7.723$ ,  $p = .006$ ,  $\eta^2 = .02$ . Participants wrote to a White target ( $M = 1.53$ ,  $SD = .05$ ) wrote letters that were coded as more "helpful" compared to participants who wrote to a Black target ( $M = 1.32$ ,  $SD = .05$ ).

*Subjective Uncertainty.* There was no effect found for subjective uncertainty on content



helpfulness,  $F(1, 313) = .18, p = .067$ .

*Goal Orientation.* There was a main effect found for goal orientations on content helpfulness of the letter written,  $F(1, 321) = 5.26, p = .022, n^2 = .017$ . Participants who endorsed learning goals wrote letters to targets that were independently coded as more “helpful” ( $M = 1.51, SD = .05$ ) compared to participants who endorsed performance goals ( $M = 1.34, SD = .052$ ).

*Target Race x Subjective Uncertainty.* There was no two-way interaction effect found for target race and subjective uncertainty on content helpfulness,  $F(1, 321) = .39, p = .534$ .

*Target Race x Goal Orientation.* There was no two-way interaction effect found for target race and goal orientation on content helpfulness,  $F(1, 320) = .25, p = .62$ .

*Subjective Uncertainty x Goal Orientation.* There was no two-way interaction effect found for subjective uncertainty and goal orientation on content helpfulness,  $F(1, 321) = .67, p = .41$ .

*Target Race x Subjective Uncertainty x Goal Orientation.* The summary of the analysis indicates that the three-way interaction was statistically significant,  $F(1, 313) = 4.368, p = .037, n^2 = .014^*$ . Therefore, I conducted a two-way analyses (Target uncertainty x Goal orientation) at each level of target race. This compared the two levels of target race comparing target uncertainty and goal attribution with a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in *Table 2* and *Figure 3*.

When participants who wrote to a Black target, and endorsed learning goals, those who felt uncertain ( $M = 1.57, SD = .10$ ) wrote letters that were coded as more “helpful” compared to participants who felt certain about the social interaction ( $M = 1.28, SD = .10$ ),  $F(1, 313) = 4.671, p = .031$ . When participants wrote to a Black target, and were uncertain about the social

interaction, those who endorsed learning goals ( $M = 1.57$ ,  $SD = .10$ ), coded letters that were coded as more helpful compared to those who endorsed performance goals ( $M = 1.16$ ,  $SD = .10$ ),  $F(1, 313) = 9.314$ ,  $p = .002$ . There were no significant comparisons for those who wrote to a White target on overall content helpfulness.

I also conducted a two-way analyses (target race x goal orientation) at each level of subjective uncertainty. This compared the two levels of subjective uncertainty comparing target race and goal orientation using a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in *Table 2* and *Figure 2*. Among participants who felt uncertain about the social interaction, and who wrote to a Black target, those who endorsed performance goals ( $M = 1.16$ ,  $SD = .10$ ) wrote letters that were less helpful, compared to participants who endorsed learning goals ( $M = 1.57$ ,  $SD = .10$ ),  $F(1, 313) = 8.80$ ,  $p = .003$ . Among participants who felt confident about the social interaction, and who endorsed learning goals, those who wrote to White targets ( $M = 1.64$ ,  $SD = .10$ ) wrote letters that were more helpful, compared to participants who wrote to Black targets ( $M = 1.28$ ,  $SD = .10$ ),  $F(1, 313) = 6.69$ ,  $p = .01$ . Among participants who felt uncertain about the social interaction, and who endorsed performance goals, those who wrote to a White target ( $M = 1.5$ ,  $SD = .11$ ) wrote letters that were more helpful, compared to participants who wrote to a Black target ( $M = 1.12$ ,  $SD = .11$ ),  $F(1, 313) = 5.96$ ,  $p = .015$ .

#### *Relative fund allocation*

*Target Race.* There was a marginally significant main effect for target race on fund allocation,  $F(1, 321) = 3.305$ ,  $p = .07$ ,  $\eta^2 = .01$ . There was a pattern that suggested that participants who wrote to a White target ( $M = 18.72\%$ ,  $SD = .98$ ) allocated less funding to the target-group compared to participants who wrote to a Black target ( $M = 21.22\%$ ,  $SD = .98$ ).

*Subjective Uncertainty.* There was no main effect found for subjective uncertainty on relative fund allocation,  $F(1, 321) = .36, p = .549$ .

*Goal Orientation.* There was no main effect found for goal orientation on relative fund allocation,  $F(1, 321) = .38, p = .536$ .

*Target Race x Subjective Uncertainty.* There was no two-way interaction effect found for target race and subjective uncertainty on relative fund allocation,  $F(1, 321) = 1.00, p = .319$ .

*Target Race x Goal Orientation.* There was no two-way interaction effect found for target race and goal orientation on relative fund allocation,  $F(1, 320) = 1.71, p = .192$ .

*Subjective Uncertainty x Goal Orientation.* There was no two-way interaction effect found for subjective uncertainty and goal orientation on relative fund allocation,  $F(1, 321) = .04, p = .834$ .

*Target Race x Subjective Uncertainty x Goal Orientation.* There was a significant three-way interaction found for relative fund allocation to the target group. The means that are evaluated for this three-way interaction are shown in *Table 2* and *Figure 4*. The summary of the analysis indicates that the three-way interaction was statistically significant,  $F(1, 321) = 5.44, p = .02, \eta^2 = .017$ . Therefore, I conducted a two-way analyses (Subjectivity uncertainty x Goal orientation) at each level of target race. This compared the two levels of target race comparing subjectivity uncertainty and goal attribution with a Bonferroni adjustment.

When participants wrote to a Black student, and felt uncertain about the social interaction, those who endorsed learning goals ( $M = 24.39\%, SD = 1.78$ ) allocated more funds to the target student group compared to participants who endorsed performance goals ( $M = 18.78\% SD = 1.87$ ),  $F(1, 313) = 4.059, p = .045$ . When participants wrote to a White student, and endorsed learning goals, those who felt uncertain ( $M = 15.41\%, SD = 1.94$ ) allocated less funds to the

target student group compared to participants who felt confident about the social interaction ( $M = 21.14\%$ ,  $SD = 1.87$ ),  $F(1, 313) = 4.51$ ,  $p = .034$ . All other pairwise comparisons were not significant.

I also conducted a two-way analyses (target race x goal orientation) at each level of subjective uncertainty. This compared the two levels of subjective uncertainty comparing target race and goal orientation using a Bonferroni adjustment. The means that are evaluated for this three-way interaction are shown in *Table 2* and *Figure 2*.

Among participants who felt uncertain about the social interaction, and who wrote to a Black target, those who endorsed performance goals ( $M = 18.79\%$ ,  $SD = 1.87$ ) allocated less funds to the target group, compared to those who endorsed learning goals ( $M = 24.39\%$ ,  $SD = 1.78$ ),  $F(1, 313) = 4.72$ ,  $p = .031$ . Among participants who felt uncertain about the social interaction, and who endorsed learning goals, those who wrote to a Black target ( $M = 24.39\%$ ,  $SD = 1.78\%$ ) allocated more funds to the target group, compared to those who wrote to a White target ( $M = 15.41\%$ ,  $SD = 1.94$ ),  $F(1, 313) = 11.64$ ,  $p = .001$ .

## Discussion

When people feel uncertain about interacting with someone of a different race, endorsing a learning goal can reduce subtle expressions of prejudice. These results extend aversive racism theory (Gaertner & Dovidio, 1986), subjectivity uncertainty theory (Landau et al., 2012), and goal orientations theory (Elliot & Dweck, 1985), by demonstrating how target race, situational contexts of uncertainty, and motivational goal orientations interact to influence subtle and overt expressions of prejudice.

### *Racial Prejudice*

Confirming predictions, results show that when participants initially felt uncertain about interacting with a Black target, and endorsed a learning goal, they wrote letters that were coded as more helpful, and they allocated more funds to the target group, compared to participants who endorsed a performance goal. Also confirming predictions, when participants endorsed a learning goal, those who initially felt uncertain about interacting with a Black target wrote letters that were coded as less helpful, compared to those who felt confident.

*Extending SUT.* The present research extends previous research on subjectivity uncertainty theory (Landau et al., 2012) from the context of dehumanization to the context of prejudice, by showing that when expectations of the social interaction are uncertain, downstream intergroup consequences of subtle expressions of racial prejudice (i.e., reduced helpfulness, and lower fund allocation) are likely to occur. These results extend SUT and goal orientations theory by showing how learning goal motives are effective for reducing racial prejudice that is assessed after provoking with subjectivity uncertainty, but not subjectivity certainty. This could be because participants who feel confident about the social interaction experience less intergroup anxiety, and correspondingly express less prejudice (Plant & Devine, 2003; Richeson et al., 2007; Stephan, 2014; Vorauer & Turpie, 2004). Priming a learning goal is likely to be ineffective for prejudice reduction when people are confident about interactions, because there is less intergroup anxiety to be mitigated by a learning goal orientation.

*Extending Goal Orientations Theory.* The findings of the current study extend goal orientations theory (Elliot & Dweck, 1988) from the context of achievement to the context of intergroup relations, by showing how different motivational goals can promote different expressions of prejudice. Compared to those who endorsed performance goals, those who endorsed learning goals reported greater willingness to interact with the student, and also wrote

letters that were more helpful. This effect occurred regardless of target race of the interactant partner and feelings of uncertainty about the interaction. This may be because a performance goal orientation increases pressure to behave in a particular way in interracial interactions, leading to maladaptive behavioral patterns (Dweck, 1986; Goff et al., 2007; Vorauer & Turpie, 2004). However, when individuals are concerned about developing ability, and the focus is on gaining understanding, insight and skill, subtle expressions of prejudice are less likely to occur. Learning goals may also reduce expressions of prejudice by encouraging people to develop a mastery oriented pattern in response to difficulty (Dweck, 1988), disassociating negative outcomes with a lack of ability (Elliot & Dweck, 1988; Anderson & Jennings, 1980), and facilitating and sustaining intrinsic interest in interracial social interactions (Mueller & Dweck, 1988; Molden & Dweck, 2000; Sansone & Harackiewicz, 2000). This research provides experimental evidence that learning goal orientations may be the key to escaping the evaluative and self-image concerns that are particularly detrimental to positive intergroup dynamics (Vorauer, 2012).

*Extending Aversive Racism Theory.* Interestingly, although we found interaction effects on measures of content helpfulness and fund distribution for those who wrote to Black targets, there were no effects found on measures of social distance, word count, or time spent on the letter. This may be due to the differential nature of prejudice measurement, whereby different aspects of prejudicial attitudes influenced different spontaneous and deliberate behaviors (Dovidio & Fazio, 1992). Based on these results, it follows that content helpfulness and fund distribution could be considered more spontaneous assessments of prejudice, while reports of willingness to interact with the target, word count, and time spent on the letter could be considered more deliberate assessments of prejudice. Consistent with aversive racism theory,

(Dovidio & Gaertner, 1986) and other work that shows that Whites respond in a more prejudiced way on subtle versus explicit measures (Dovidio, Kawakami, Johnson, & Howard, 1997), we show that prejudice is more likely to be expressed in subtle or ambiguous ways, and less likely to take form in overt or deliberately managed displays.

### Limitations and Future Directions

Future work should examine how implicit measures of prejudice relate to explicit measures of prejudice, as well as the corresponding downstream consequences of subtle and overt types of discrimination. Based on past research (Dovidio, Kawakami, Johnson, & Howard, 1997), we would expect that implicit measures of prejudice, such as response latency measures, would be better predictors of subtle manifestations of prejudice in behavior because responses would be less contaminated by concerns with social norms and/or held egalitarian values. The discrepancy among subjectivity and behavioral measures of prejudice found in the current study is interesting, and shows that some forms of subtle prejudice may be less spontaneous than others, whereas some aspects of behavior are less controllable than others (Dovidio et al., 1997). These discrepancies can provide a window into the multidimensional nature of the psychological processes of prejudice (Crandall & Eshleman, 2003).

Another important limitation of the present work is the fact that the interactions examined were quite structured. Instead of a letter exchange between two naïve participants, it involved a letter-writing task in response to a confederate target. Future research is necessary to ascertain whether more natural interracial interactions would yield results similar to those found in the current study. The extant research documenting intergroup anxiety in many different interactions suggests that one would find similar effects in both laboratory and naturally occurring interactions, but it remains an empirical question.

The current study did not directly assess how learning and performance orientations exert their effects. Future research should examine the mechanisms through which learning goals combats uncertainty effects on expressions of prejudice. Based on our results, and other previous theorizing, it follows that those who endorse a learning goal orientation with regards to an interracial interaction would experience less intergroup anxiety, would report greater intragroup communication efficacy, and would expend less energy attempting to regulate their thoughts and behaviors (Landau et al., 2012; Richeson et al., 2003), which could all result in decreased expressions of prejudice.

An additional limitation of the study that may have influenced participants' motivations to positively interact with the target was the use of incentives, as participants were compensated monetarily for their responses and their time. It may be that this monetary compensation may have increased participants' externally oriented concerns to appear nonprejudiced, but not internally driven concerns based on personal standards of behavior (Plant & Devine, 1998). Future research should examine how internal and external motivations to positively interact with the target can increase expressions of prejudice. In line with subjectivity uncertainty theory (Landau et al. 2012), we would expect that if people were not internally motivated to positively interact with the target group, then framing a social interaction as a learning goal would not be effective for reducing expressions of prejudice. Further, we would expect that individuals, who are not internally or externally motivated to positively interact with the target group, would show increased overt and covert expressions prejudice, due to less conflict between personally held egalitarian beliefs and corresponding behavioral expressions, and therefore express more genuine feelings of prejudice (Dovidio & Gaertner, 1986, Plant & Devine, 2003).



Finally, it is not clear to what extent the effects that emerged in this work generalizes to other situations and groups beyond the ones examined in these studies. Future research should assess how these effects replicate in other contexts of social interactions where expected behavioral patterns are ambiguous, and people feel uncertain about successfully navigating an interracial interaction. Lastly, the present study only examined the effects for White individuals during contact experiences with Blacks. As the perspectives and experiences of both individuals influence the dynamics of interracial contact (e.g., Shelton, 2000), it is important to consider whether these effects occur for Black individuals. It would also be interesting to examine how subtle and overt forms of prejudice are expressed in other intergroup interactions (i.e., nationality, gender, sexual orientation) and how subjectivity uncertainty and motivational goals influence these contexts.

#### *Theoretical and Practical Implications*

There are many practical implications for understanding how subjectivity uncertainty and goal orientations interact to influence evaluations of others and corresponding interactions with them. These results suggest that when one is uncertain about one's ability to interact with someone of a different race, this can be considered an obstacle to a successful interracial interaction. It follows that people who avoid interracial interactions because they do not see themselves as possessing the skills necessary to create a good impression are thwarting opportunities to engage in contact and develop interpersonal skills and cultural communication efficacy. There is potential in utilizing these findings to design novel interventions to improve race relations. Endorsing a learning motivational framework with respect to race relations could benefit not only interpersonal relationships, but also society more generally by improving perceptions of cultural communication efficacy. The interplay of SUT and goal orientation

theory, particularly with respect to maintaining and achieving social connection and intergroup relations, presents fertile ground for new research on different situational and motivational factors behind expressions of prejudice and other forms of dehumanization.

The present article focused on one form of bias, as we assessed participants' helping behaviors towards an incoming international student. However, we expect that these effects may generalize to other situations where one feels uncertain about to navigate an interracial interaction and behavioral expectancies are unclear (i.e, hiring decisions, emergencies, legal decisions). In quickly changing or novel social situations, or situations where norms are unstable and behavioral options are not universally agreed upon, one can expect higher levels of prejudice expression (Crandall & Eshleman, 2003). Although we speculate that similar processes are less influential in more formal and structured situations where behavioral expectations are less ambiguous, more empirical research is needed to address these questions.

### Conclusions

Almost eight years after Barack Obama's election as the United States first Black president, an event that engendered a sense of optimism among many Americans about the future of race relations (Pew Research Center, 2008), a series of flashpoints around the U.S. has exposed deep racial divides and reignited a national conversation about expressions of racial prejudice. Understanding the nature of the interracial interaction is critical to understanding race relations and reducing expressions of prejudice against individuals (Devine & Vasquez, 1998). This research reveals the role of subjectivity uncertainty processes and goal orientations on the differential expressions of prejudice. These findings suggest that when people are uncertain about their ability to successfully navigate an interaction with a Black person, and when they endorse a performance goal orientation, they are likely to show increased expressions of subtle

prejudice. However, if individuals assuage their subjectivity uncertainty by endorsing a learning goal orientation, they may feel more confident when interacting with someone of a different race, and correspondingly express less prejudice within the interaction.

## References

- Allport, G.W. (1954). *The nature of prejudice*. Reading, MA : Addison – Wesley.
- Ames, C. (1984). Achievement attributions and self-instructions under competitive and individualistic goal structures. *Journal of educational psychology*, 76(3), 478.
- Ames, C. (1992). Classrooms: Goals, Structures, and Student Motivation. *Journal of Educational Psychology*, 84(3), 261-271..
- Anderson, C. A., & Jennings, D. L. (1980). When experiences of failure promote expectations of success: The impact of attribution failure to ineffective strategies. *Journal of Personality*, 48(3), 393-407.
- Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgments. *Groups, leadership, and men*, 222-236.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191.
- Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of personality and social psychology*, 41(3), 586.
- Blascovich, J., Mendes, W. B., Hunter, S. B., Lickel, B., & Kowai-Bell, N. (2001). Perceiver threat in social interactions with stigmatized others. *Journal of personality and social psychology*, 80(2), 253.
- Bergsieker, H. B., Shelton, J. N., & Richeson, J. A. (2010). To be liked versus respected: Divergent goals in interracial interactions. *Journal of personality and social psychology*, 99(2), 248.
- Bizman, A., & Yinon, Y. (2001). Intergroup and interpersonal threats as determinants of prejudice: The moderating role of in-group identification. *Basic and Applied Social Psychology*, 23(3), 191-196.
- Britt, T. W., Bonieci, K. A., Vescio, T. K., Biernat, M., & Brown, L. M. (1996). Intergroup anxiety: A person× situation approach. *Personality and Social Psychology Bulletin*, 22(11), 1177-1188.
- Chiu, C. Y., Hong, Y. Y., & Dweck, C. S. (1997). Lay dispositionism and implicit theories of personality. *Journal of personality and social psychology*, 73(1), 19.

- Covington, M. V., & Omelich, C. L. (1985). Ability and effort valuation among failure-avoiding and failure-accepting students. *Journal of Educational Psychology*, 77(4), 446.
- Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: a sociofunctional threat-based approach to "prejudice." *Journal of personality and social psychology*, 88(5), 770.
- Crandall, C. S., & Eshleman, A. (2003). A justification-suppression model of the expression and experience of prejudice. *Psychological Bulletin*, 129(3), 414.
- Crosby, F., Bromley, S., & Saxe, L. (1980). Recent unobtrusive studies of Black and White discrimination and prejudice: A literature review. *Psychological Bulletin*, 87(3), 546.
- Deci, E. L., & Ryan, R. M. (1980). The empirical exploration of intrinsic motivational processes. *Advances in experimental social psychology*, 13, 39-80.
- Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness: II. The processing of success. *Journal of personality and social psychology*, 39(5), 940.
- Devine, P. G., & Vasquez, K. A. (1998). The rocky road to positive intergroup relations. *Confronting racism: The problem and the response*, 234-262. Thousand Oaks, CA, US: Sage Publications, Inc.
- Devine, P. G., Evett, S. R., & Vasquez-Suson, K. A. (1996). Exploring the interpersonal dynamics of intergroup contact. *Handbook of motivation and cognition, Vol. 3: The interpersonal context* (423-464). New York, NY, US: Guilford Press.
- Dovidio, J. F. (2001). On the nature of contemporary prejudice: The third wave. *Journal of Social Issues*, 57(4), 829-849.
- Dovidio, J.F., & Fazio, R. H. (1992). New Technologies for the direct and indirect assessment of attitudes. In J. Tanur (Ed.), *Questions about questions : Inquiries into the cognitive bases of surveys* (204-237). New York, NY : Russell Sage Foundation.
- Dovidio, J. F., & Gaertner, S. L. (1986). *Prejudice, discrimination, and racism: Historical trends and contemporary approaches*. Academic Press.
- Dovidio, J. F., & Gaertner, S. L. (1996). Affirmative action, unintentional racial biases, and intergroup relations. *Journal of social issues*, 52(4), 51-75.
- Dovidio, J. F., & Gaertner, S. L. (1998). On the nature of contemporary prejudice: The causes, consequences, and challenges of aversive racism. In J. Eberhardt & S.T. Fiske (Eds.) *Confronting racism: The problem and the response* (3-32). Newbury Park, CA : Sage.
- Dovidio, J. F., & Gaertner, S. L. (2000). Aversive racism and selection decisions: 1989 and 1999. *Psychological science*, 11(4), 315-319.

- Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of experimental social psychology*, 33(5), 510-540.
- Dunton, B. C., & Fazio, R. H. (1997). An individual difference measure of motivation to control prejudiced reactions. *Personality and Social Psychology Bulletin*, 23(3), 316-326.
- Dweck, C.S. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048. Dweck, C.S. & Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95, 256-273.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review*, 95(2), 256.
- Elliot, E.S., & Dweck, C.S. (1988). Goals: An approach to motivation and achievement. *Journal of personality and social psychology*, 54(1), 5.
- Feagin, J. R. (1991). The continuing significance of race: Antiblack discrimination in public places. *American sociological review*, 101-116.
- Feagin, J. R., & Sikes, M. P. (1994). *Living with racism: The black middle-class experience*. Beacon Press.
- Gaertner, S. L. (1973). Helping behavior and racial discrimination among Liberals and conservatives. *Journal of Personality and Social Psychology*, 25(3), 335.
- Gaertner, S. L., & Dovidio, J. F. (1977). The subtlety of White racism, arousal, and helping behavior. *Journal of Personality and Social Psychology*, 35(10), 691.
- Gaertner, S. L., & Dovidio, J. F. (1986). *The aversive form of racism*. Academic Press.
- Garcia, J. A., & Crocker, J. (2008). Reasons for disclosing depression matter: The consequences of having egosystem and ecosystem goals. *Social science & medicine*, 67(3), 453-462.
- Goff, P. A., Steele, C. M., & Davies, P. G. (2008). The space between us: stereotype threat and distance in interracial contexts. *Journal of personality and social psychology*, 94(1), 91.
- Greenland, K., Masser, B., & Prentice, T. (2001). "They're scared of it": Intergroup determinants of attitudes toward children with HIV. *Journal of Applied Social Psychology*, 31, 2127-2148.
- Harackiewicz, J. M., & Sansone, C. (2000). Rewarding competence: The importance of goals in the study of intrinsic motivation. *Intrinsic and extrinsic motivation: The search for optimal motivation and performance*, 79-103.

- Harber, K. D. (1998). Feedback to minorities: evidence of a positive bias. *Journal of personality and social psychology*, 74(3), 622.
- Hong, Y. Y., Chiu, C. Y., Dweck, C. S., & Sacks, R. (1997). Implicit theories and evaluative processes in person cognition. *Journal of Experimental Social Psychology*, 33(3), 296-323.
- Ickes, W. (1984). Compositions in Black and White: Determinants of interaction in interracial dyads. *Journal of Personality and Social Psychology*, 47(2), 330.
- Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, 19(6), 700-710.
- Kaplan, A. & Midgley, C. (1997). The effect of achievement goals: Does level of perceived academic competence make a difference? *Contemporary Educational Psychology*, 22 (4), 415-435.
- Keefer, L. A., Landau, M. J., Sullivan, D., & Rothschild, Z. K. (2014). The Object of Affection: Subjectivity Uncertainty Increases Objectification in Close Relationships. *Social Cognition*, 32(5), 484.
- Kluegel, J. R., & Smith, E. R. (1986). *Beliefs about inequality: Americans' views of what is and what ought to be*. Transaction Publishers.
- Landau, M. J., Sullivan, D., Keefer, L. A., Rothschild, Z. K., & Osman, M. R. (2012). Subjectivity uncertainty theory of objectification: Compensating for uncertainty about how to positively relate to others by downplaying their subjectivity attributes. *Journal of Experimental Social Psychology*, 48(6), 1234-1246.
- McConahay JB. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In: Dovidio JF, Gaertner SL, editors. *Prejudice, discrimination, and racism*. San Diego, CA: Academic Press; 91–125.
- Mendes, W. B., Major, B., McCoy, S., & Blascovich, J. (2008). How attributional ambiguity shapes physiological and emotional responses to social rejection and acceptance. *Journal of personality and social psychology*, 94(2), 278.
- Migacheva, K., & Tropp, L. R. (2013). Learning orientation as a predictor of positive intergroup contact. *Group Processes & Intergroup Relations*, 16, 426-444.
- Molden, D. C., & Dweck, C. S. (2000). *Meaning and motivation*.
- Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of personality and social psychology*, 75(1), 33.

- Murphy, M. C., Richeson, J. A., & Molden, D. C. (2011). Leveraging motivational mindsets to foster positive interracial interactions. *Social and Personality Psychology Compass*, 5(2), 118-131.
- Myrdal, G. (1944). *An American dilemma, Volume 2: The Negro problem and modern democracy* (Vol. 2). Transaction Publishers.
- Pettigrew, T. F., & Meertens, R. W. (1995). Subtle and blatant prejudice in Western Europe. *European journal of social psychology*, 25(1), 57-75.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of personality and social psychology*, 90(5), 751.
- Pew Research Center (2008). Section 2: The President-Elect's Image and Expectations: High Expectations for Obama's First Term. *Pew Research Center: Social and Demographic Trends*. Retrieved from <http://www.people-press.org/2008/11/13/section-2-the-president-elects-image-and-expectations/>.
- Pew Research Center (2016). On Views of Race and Inequality, Blacks and Whites Are Worlds Apart. *Pew Research Center: Social and Demographic Trends*. Retrieved from <http://www.pewsocialtrends.org/2016/06/27/on-views-of-race-and-inequality-blacks-and-whites-are-worlds-apart/>
- Plant, E. A., & Devine, P. G. (2003). The antecedents and implications of interracial anxiety. *Personality and Social Psychology Bulletin*, 29(6), 790-801.
- Richeson, J. A., & Shelton, J. N. (2005). Brief report: Thin slices of racial bias. *Journal of Nonverbal Behavior*, 29(1), 75-86.
- Richeson, J. A., & Shelton, J. N. (2007). Negotiating interracial interactions costs, consequences, and possibilities. *Current Directions in Psychological Science*, 16(6), 316-320.
- Richeson, J. A., & Sommers, S. R. (2016). Toward a Social Psychology of Race and Race Relations for the Twenty-First Century. *Annual Review of Psychology*, 67, 439-463.
- Shelton, J. N. (2000). A reconceptualization of how we study issues of racial prejudice. *Personality and Social Psychology Review*, 4(4), 374-390.
- Shelton, J. N., & Richeson, J. A. (2005). Intergroup contact and pluralistic ignorance. *Journal of personality and social psychology*, 88(1), 91.
- Shelton, J. N., Richeson, J. A., & Vorauer, J. D. (2006). Threatened identities and interethnic interactions. *European review of social psychology*, 17(1), 321-358.



- Smith, E. R. (1993). Social identity and social emotions: Toward new conceptualizations of prejudice. In D. M. Mackie & D. L. Hamilton (Eds.), *Affect, cognition, and stereotyping: Interactive processes in group perception* (pp. 297-315). San Diego, CA: Academic Press
- Sommers, S. R., & Marotta, S. A. (2014). Racial disparities in legal outcomes on policing, charging decisions, and criminal trial proceedings. *Policy Insights from the Behavioral and Brain Sciences*, 1(1), 103-111.
- Stephan, W. G. (2014). Intergroup anxiety theory, research, and practice. *Personality and Social Psychology Review*, 18(3), 239-255.
- Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of social issues*, 41(3), 157-175.
- Stephan, W. G., & Stephan, C. W. (2001). *Improving intergroup relations*. Sage Publications
- Trawalter, S., Richeson, J. A., & Shelton, J. N. (2009). Predicting behavior during interracial interactions: A stress and coping approach. *Personality and Social Psychology Review*.
- Vorauer, J. D., & Kumhyr, S. M. (2001). Is this about you or me? Self-versus other-directed judgments and feelings in response to intergroup interaction. *Personality and Social Psychology Bulletin*, 27(6), 706-719.
- Vorauer, J. D., Main, K. J., & O'Connell, G. B. (1998). How do individuals expect to be viewed by members of lower status groups? Content and implications of meta-stereotypes. *Journal of personality and social psychology*, 75(4), 917.
- Vorauer, J. D., & Turpie, C. (2004). Relation of prejudice to choking versus shining under pressure in intergroup interaction: The disruptive effects of vigilance. *Journal of Personality and Social Psychology*, 87, 384-399.
- Vorauer, J. D. (2006). An information search model of evaluative concerns in intergroup interaction. *Psychological Review*, 113, 862-886.
- Vorauer, J. D. (2012). Completing the Implicit Association Test reduces positive intergroup interaction behavior. *Psychological science*, 23(10), 1168-1175.
- Wilder, D. A., & Shapiro, P. (1989). Effects of anxiety on impression formation in a group context: An anxiety-assimilation hypothesis. *Journal of Experimental Social Psychology*, 25(6), 481-499.
- Wilder, D. A., & Shapiro, P. N. (1989). Role of competition-induced anxiety in limiting the beneficial impact of positive behavior by an out-group member. *Journal of Personality and Social Psychology*, 56(1), 60.

\*There was a four-way interaction effect found for participant gender, target race, subjective uncertainty, and goal orientation on content helpfulness,  $F(1, 321) = 7.04, p = .008, n^2 = .017$ . Therefore, I conducted a three-way analyses (Target race x Subjectivity uncertainty x Goal orientation) at each level of participant gender. For male participants, there was a significant three-way interaction for target race, subjectivity uncertainty, and goal attribution,  $F(1, 157) = 11.38, p = .001, n^2 = .07$ . For female participants, the three-way interaction was not significant,  $F(1, 157) = .27, p = .60, n^2 = .002$ .

## **Appendices Index**

Appendix A. Target Race Manipulation

Appendix B. Willingness to Interact with the Target (Social Distance Scale; Crandall, 1991)

Appendix C. Sample Response Letters

Appendix D. Fund Allocation Measure

Appendix E. Tables and Figures

## Appendix A. Target Race Manipulation

*Directions.* On the next screen, you will be asked to read a brief letter from an incoming international student. When you read his letter, imagine what it would be like to interact with him.

*(Participants received one of two photos along with the letter below:)*



*Hello pen pal!*

*My name is Stefan, and I will be an incoming international student in the Fall of 2016 at the University of Kansas. I am from Trinidad and Tobago. I am 19 years old. I want to be a Jayhawk because I am interested in the engineering program. I have five brothers, and I am the first to come to America.*

*I look forward to learning more about American culture. I am starting to get more into American music and American films. One neat thing about where I come from was that the dance “the limbo” was created in Trinidad. I don’t really like to dance, but I do like to play the drums in my free time. I also like to read sci-fi comic books and hang out with my friends. One fact about me is that my favorite baseball team is the Kansas City Royals. I look forward to hearing more about American culture.*

*Best wishes, Stefan*

## **Appendix B. Willingness to Interact with the Target (Social Distance Scale; Crandall, 1991)**

**Directions:** Read each statement carefully, then mark how much you agree or disagree with it by clicking any point along the scale (1: Strongly Disagree – 7: Strongly Agree)

1. Stefan appears to be a likable person.
2. I would like this person to be a close personal friend.
3. I would like this person to move into my neighborhood.
4. I would like this person to come and work at the same place as I do.
5. This is a person who is similar to me.
6. I would like to have this person marry into my family.
7. This is the kind of person that I tend to avoid.

### **Appendix C. Examples of Response Letters**

“Hello Stefan, I'm glad you're enjoying your time in American and at the University of Kansas so far. It's a great country and a great school and I'm sure you will enjoy it quite a lot! Good luck with your studies and enjoy that BBQ!”

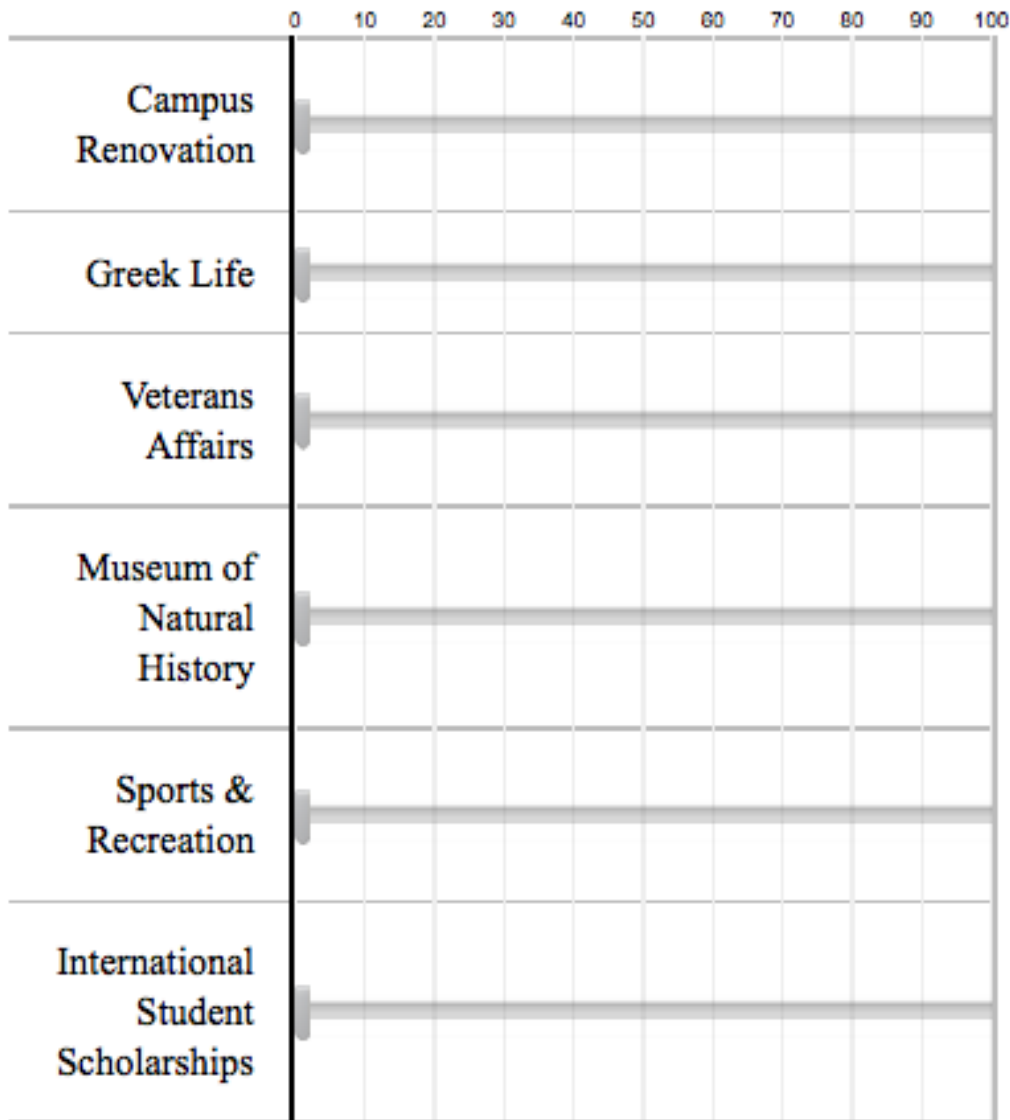
“Hi Stefan, Welcome to America. I am glad you are enjoying America and learning our culture. It must be very hard having your family so far away. I cannot play any instruments like you can play the drums, but it is a great hobby to have. I have lived in America all my life, and I find it very interesting to learn about your culture as well. I hope you enjoy your time here and learn a lot as well as make friends. Thank you.”

“Hi Stefan! We are all so excited that you'll be joining us on the KU campus. Although it is understandable to be nervous when moving to another country, I think you'll find that America is tolerant, welcoming, and friendly. You seem like you have a great attitude and will fit in great here. The key is to put yourself out there and be open and friendly yourself. Most Americans, especially college students, are eager to learn about other cultures and interact with people from other countries. You'll have no shortage of stories to tell, I'm sure, and we would all love to hear them!”

“Hello Stefan, Welcome to America. Your first lesson in being an American is that there are no lessons. When you feel free to be yourself, pursue your own interests and express yourself freely then you are an American. You are probably one already. America is a big and very diverse country. I'm sure that people at KU think they know something about basketball and BBQ. Residents of North Carolina would disagree, especially about the BBQ. The point is that there is no one correct American point of view abbot basketball, BBQ, politics or culture. America is a buffet, pick and choose what you like. Since you mentioned music the most typically American music is jazz. It is a constantly changing negotiation between the musicians, spontaneous, extemporized and never played exactly the same way twice. Such is the American way of life. It might be confusing but it's often a wonderful, exuberant, exciting ride. Jump in and hang on.”

### Appendix D. Relative Fund Allocation

**Directions:** Drag each bar to the percentage that best reflects your feelings. You can drag the six bars as many times as you like. Before clicking the arrows to move on to the next page, make sure that the total of the 6 percentages is 100%. That way, you can indicate how you would like to distribute the funds.



## Appendix E. Tables and Figures

*Table 1. Three-Way Analysis of Variance Summary Table for the Effects of Target Race, Subjectivity Uncertainty, and Goal Orientation on Expressions of Prejudice*

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>n</i> <sup>2</sup>
Willingness to Interact						
Target Race (TR)	1	0.20	0.20	0.22	0.637	0.001
Subjective Uncertainty (SU)	1	0.21	0.21	2.35	0.126	0.007
Goal Orientation (GO)	1	5.29	5.1	5.78	0.017	0.018
TR x SU	1	0.33	0.33	0.37	0.544	0.001
TR x GO	1	3.97	3.97	4.50	0.035	0.014
SU x GO	1	0.56	0.56	0.63	0.426	0.002
TR x SU x GO	1	5.799	5.97	6.77	0.010	0.021
	31					
Within cells error	3	294.624	0.882			
	32					
Total	1	9419.735				
Word Count						
Target Race (TR)	1	10429.335	10429.335	3.73	0.054	0.012
Subjective Uncertainty (SU)	1	6.15	6.15	<.01	0.963	<.001
Goal Orientation (GO)	1	1093.98	1093.98	0.39	0.532	0.001
TR x SU	1	20.45	20.45	0.007	0.932	<.001
TR x GO	1	1330.27	1330.27	0.48	0.49	0.002
SU x GO	1	3780.47	3780.47	1.33	0.25	0.004
TR x SU x GO	1	422.77	422.77	0.15	0.70	<.001
	31					
Within cells error	4	875048.66	2795.68			
	32					
Total	1	4275620				
Time Spent on Letter						
Target Race (TR)	1	133303.4	133303.4	3.14	0.078	0.01
Subjective Uncertainty (SU)	1	25097.74	25097.74	0.59	0.443	0.002
Goal Orientation (GO)	1	110678.041	110678.041	0.26	0.108	0.008
TR x SU	1	529.88	529.88	0.12	0.911	<.001
TR x GO	1	25322.85	25322.85	0.60	0.441	0.002
SU x GO	1	305501.14	305501.14	7.19	0.008	0.022
TR x SU x GO	1	206980.19	206980.19	4.87	0.028	0.015
	31					
Within cells error	3	13303598.01	13303598.01			
	32					
Total	1	32993965.31				



Overall Content Helpfulness						
Target Race (TR)	1	3.31	3.31	7.87	0.005	0.025
Subjective Uncertainty (SU)	1	0.076	0.076	0.18	0.67	0.001
Goal Orientation (GO)	1	2.14	2.14	5.40	0.025	0.013
TR x SU	1	0.16	0.16	0.39	0.534	0.001
TR x GO	1	0.10	0.10	0.25	0.621	0.001
SU x GO	1	0.28	0.28	0.67	0.413	0.002
TR x SU x GO	1	1.77	1.77	4.22	0.041	0.013
	31					
Error	3	131.11	131.11			
	32					
Total	1	792				
Relative Fund Allocation						
Target Race (TR)	1	525.75	525.75	3.60	0.059	0.011
Subjective Uncertainty (SU)	1	52.73	52.73	0.36	0.549	0.001
Goal Orientation (GO)	1	56.08	56.08	0.38	0.536	0.001
TR x SU	1	145.82	145.82	1.00	0.319	0.003
TR x GO	1	249.66	249.66	1.71	0.192	0.005
SU x GO	1	6.461	6.461	0.04	0.834	<.001
TR x SU x GO	1	850.83	850.83	5.82	0.016	0.018
	31					
Within cells error	3	45765.75	45765.75			
	32					
Total	1	177988				

*Table 2. Means and Standard Deviations for Expressions of Prejudice as a function of Target Race, Subjective Uncertainty, and Goal Orientation*

Black Target Partner

	Subjective Certainty		Subjective Uncertainty	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Performance Goals				
Willingness to Interact	5.51	0.16	5.22	0.15
Word Count	103.74	9.07	98.98	8.16
Overall Time Spent	249.50	35.36	223.32	31.81
Content Helpfulness	1.29	0.11	1.16	0.10
Relative Fund Distribution	21.24	2.07	18.78	1.87
Learning Goals				
Willingness to Interact	5.29	0.14	5.3670	0.14
Word Count	91.40	8.06	95.70	7.80
Overall Time Spent	219.03	31.44	214.80	30.40
Content Helpfulness	1.28	0.01	1.57	0.10
Relative Fund Distribution	20.86	1.84	24.39	1.78

White Target Partner

	Subjective Certainty		Subjective Uncertainty	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Performance Goals				
Willingness to Interact	5.48	0.16	5.61	0.15
Word Count	112.91	9.2	104.55	8.16
Overall Time Spent	362.05	35.89	228.51	31.81
Content Helpfulness	1.42	0.11	1.50	0.01
Relative Fund Distribution	18.52	2.11	19.91	1.87
Learning Goals				
Willingness to Interact	5.36	0.15	4.77	0.15
Word Count	104.14	8.16	114.08	8.47
Overall Time Spent	193.66	31.81	286.44	33.01
Content Helpfulness	1.64	0.10	1.54	0.10
Relative Fund Distribution	21.14	1.87	15.41	1.94

*Table 3. Means and standard deviations of the dependent variables by target race*

White Target

	<i>M</i>	<i>SD</i>
Willingness to interact with target	5.30	0.96
Word Count	108.59	53.59
Time Spent on Letter	261.86	241.35
Content Helpfulness	1.53	10.40
Fund Distribution	18.82	0.60

Black Target

	<i>M</i>	<i>SD</i>
Willingness to interact with target	5.35	0.96
Word Count	97.07	51.58
Time Spent on Letter	225.22	172.83
Content Helpfulness	1.33	13.62
Fund Distribution	21.39	0.70

*Table 4. Correlations of the dependent variables by target race*

White Target					
	1	2	3	4	5
1 Willingness to interact with target	1	.25**	0.09	-0.05	.35**
2 Word Count	.25**	1	.45**	0.06	0.1
3 Time Spent on Letter	0.09	0.45	1	0.01	0.07
4 Content Helpfulness	-0.05	0.06	0.01	1	0.05
5 Fund Distribution	.35*	0.1	0.07	-0.05	1

Black Target					
	1	2	3	4	5
1 Willingness to interact	1	.18*	0.03	-0.02	.32**
2 Word Count	.18*	1	.56**	-0.01	0.09
3 Time Spent on Letter	0.03	.56**	1	-0.01	0.11
4 Content Helpfulness	-0.02	-0.01	-0.01	1	-0.03
5 Fund Distribution	.32**	0.09	0.11	-0.03	1

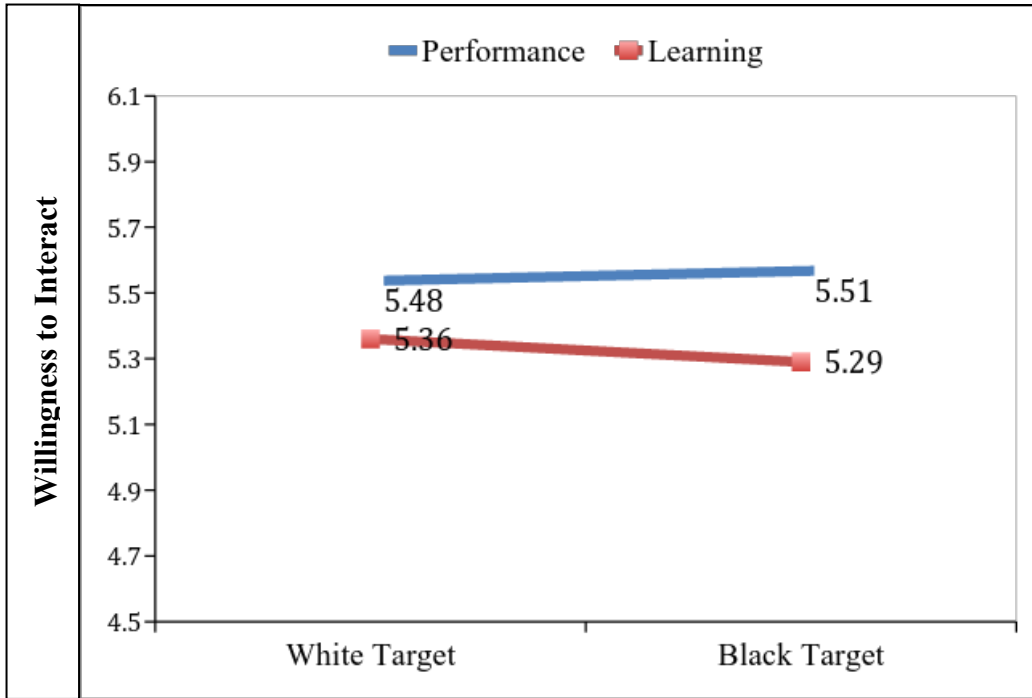


Figure 1a. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution for those who felt confident about the social interaction.  $F(1, 321) = 6.578, p = .011, n^2 = .19$ . Higher scores indicate greater willingness to interact with the target.

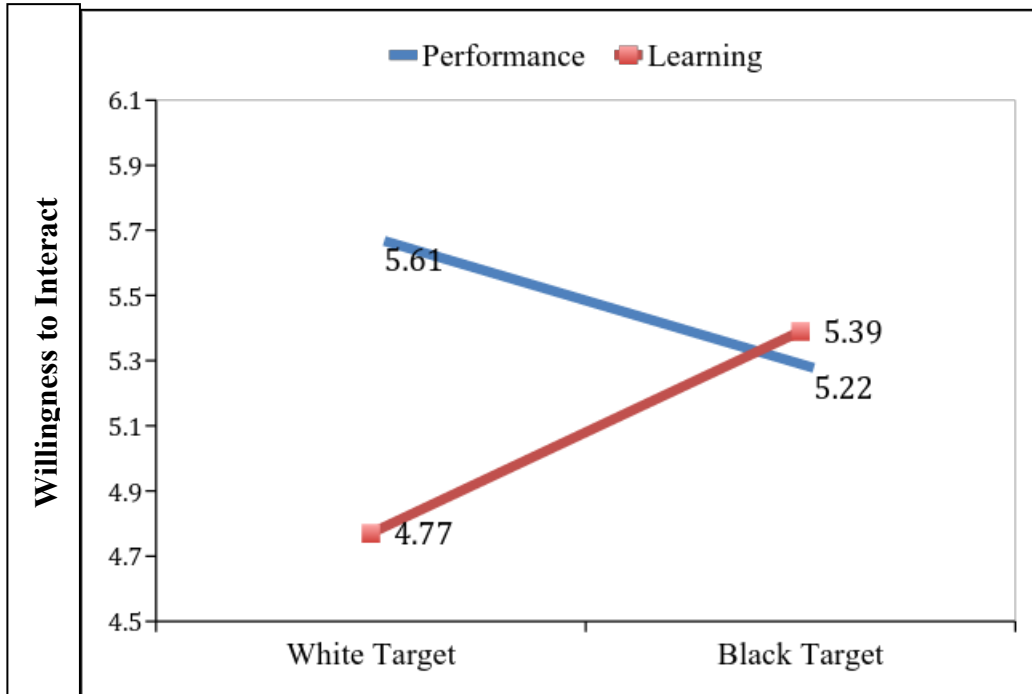


Figure 1b. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution for those who felt uncertain about the social interaction.  $F(1, 321) = 6.578, p = .011, n^2 = .19$ . Higher scores indicate greater willingness to interact with the target.

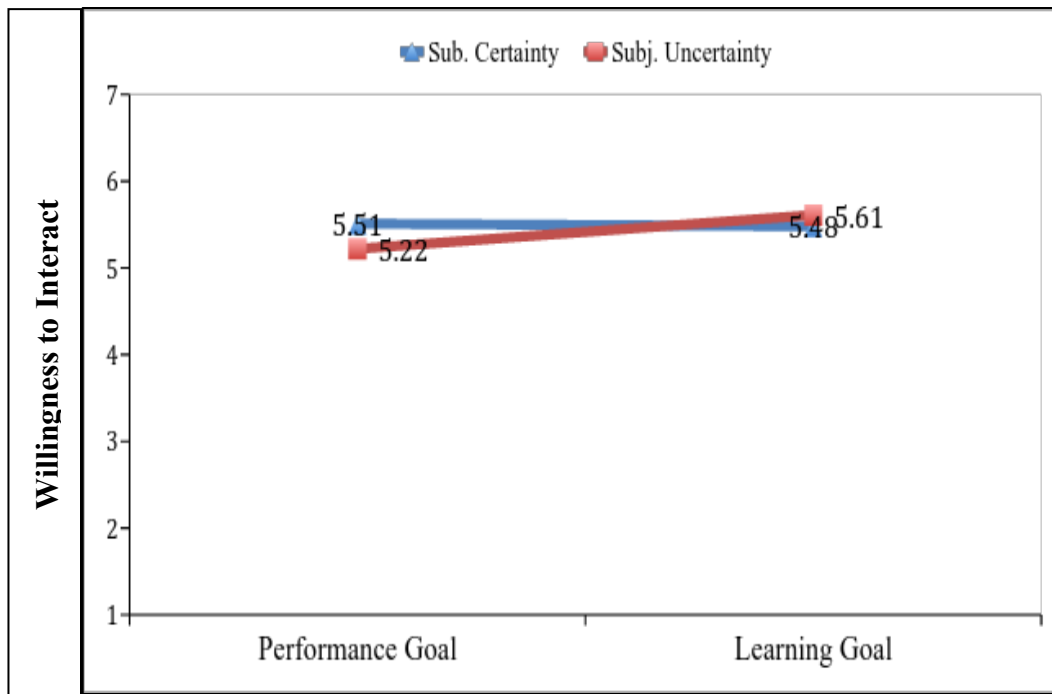


Figure 2a. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation for those who wrote to a Black target partner,  $F(1, 321) = 6.77, p = .01, n^2 = .021$ . Higher scores indicate greater willingness to interact with the target.

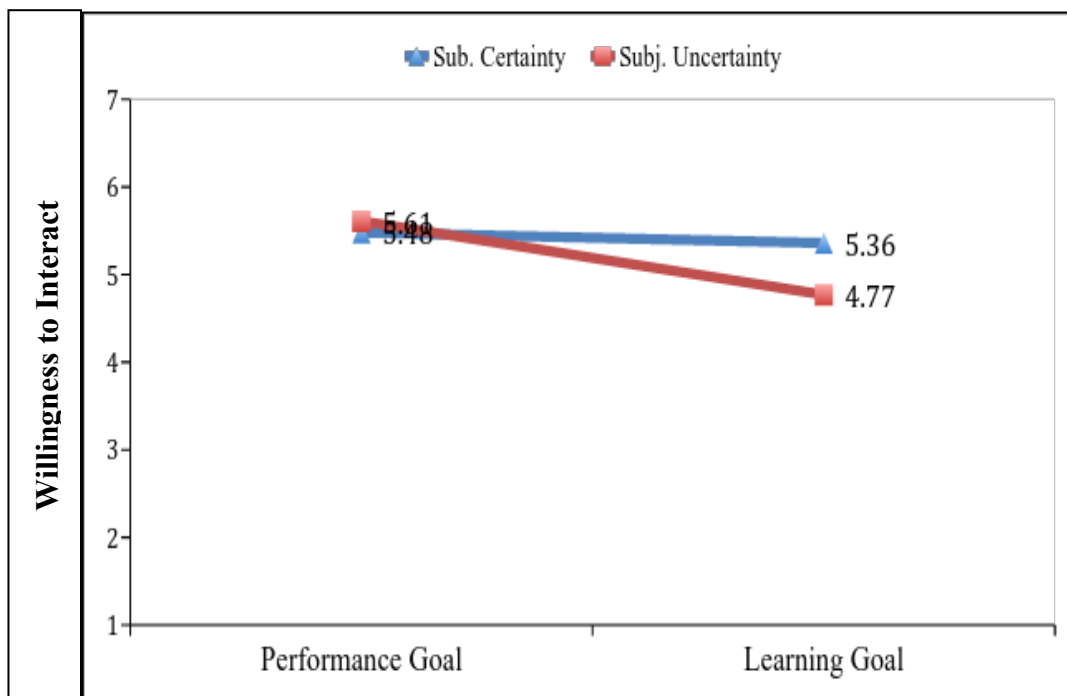


Figure 2b. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation for those who wrote to a White target partner,  $F(1, 321) = 6.77, p = .01, n^2 = .021$ . Higher scores indicate greater willingness to interact with the target.

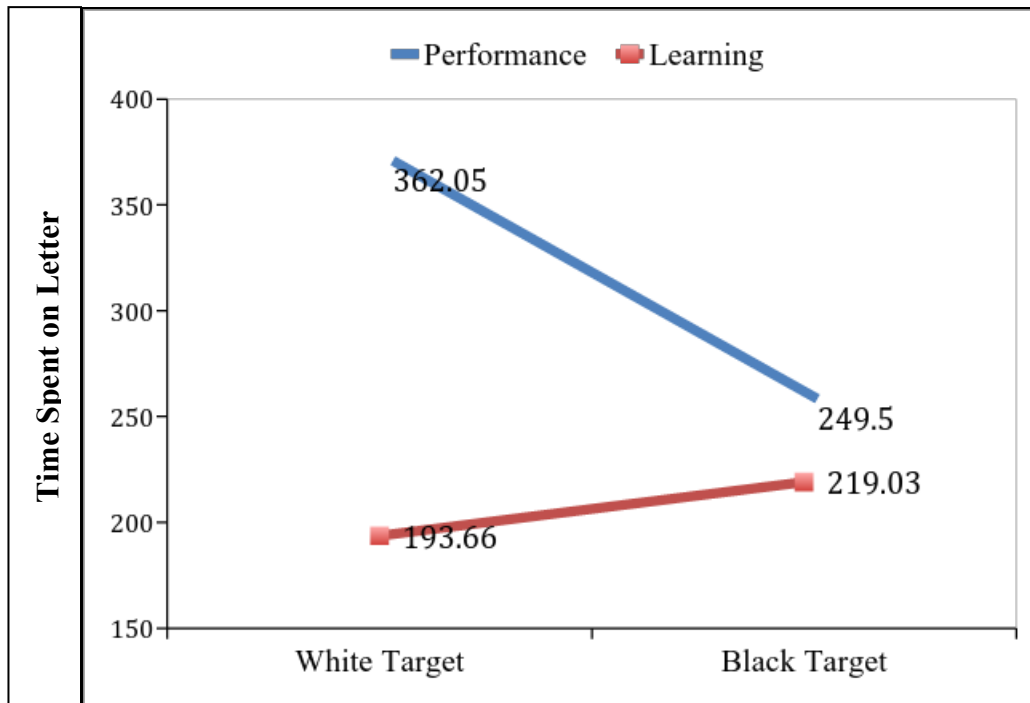


Figure 3a. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution, for those who felt confident about the social interaction,  $F(1, 321) = 4.511, p = .032, n^2 = .015$ . Higher scores indicate more time spent on letter.

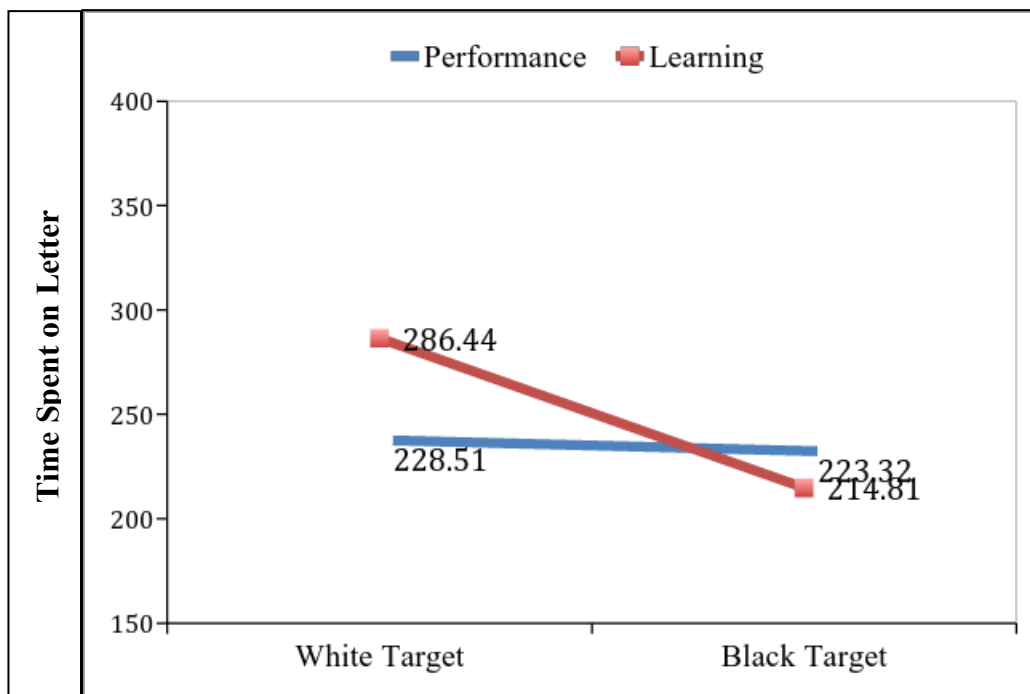


Figure 3b. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution, for those who felt uncertain about the social interaction,  $F(1, 321) = 4.511, p = .032, n^2 = .015$ . Higher scores indicate more time spent on letter.

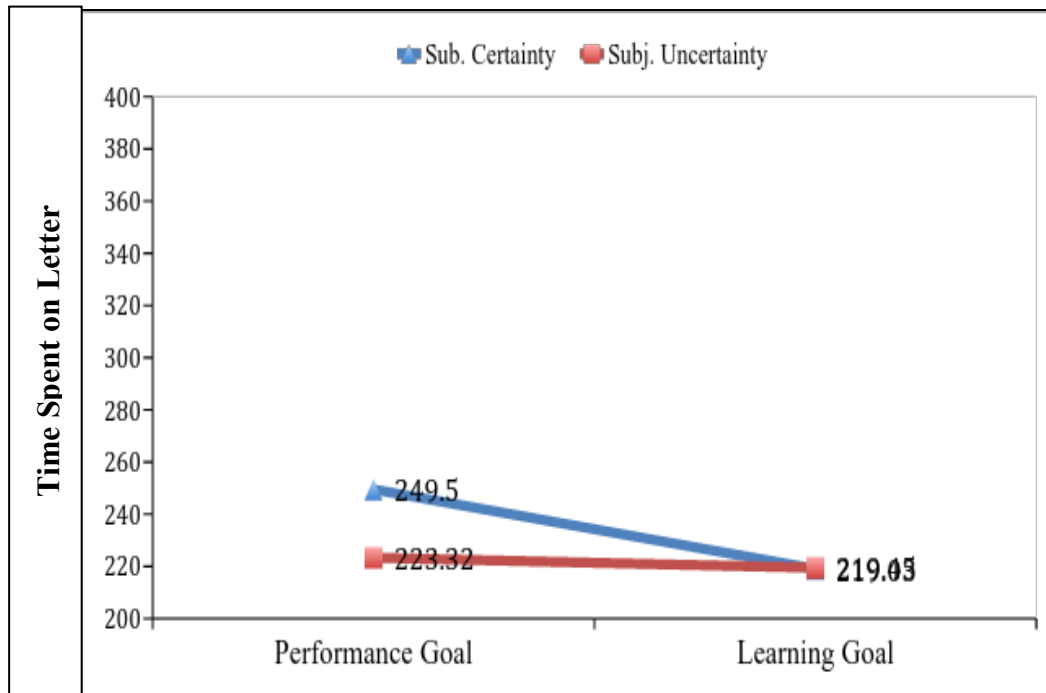


Figure 4a. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation, for those who wrote to a Black target,  $F(1, 321) = 4.87, p = .028, \eta^2 = .015$ . Higher scores indicate more time spent on letter.

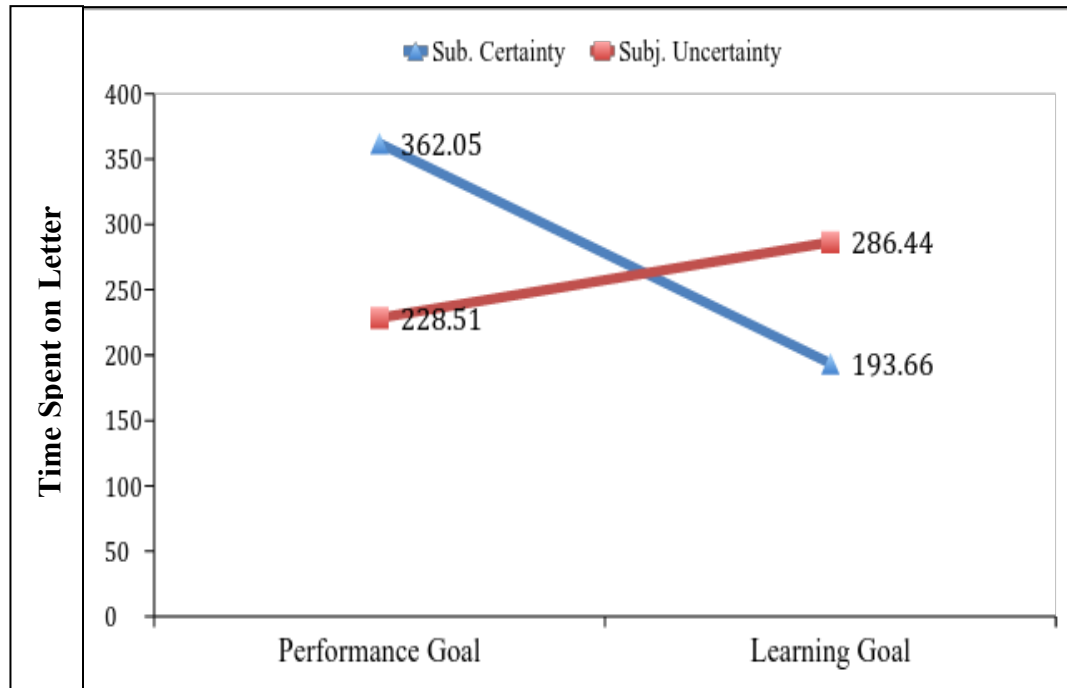


Figure 4b. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation for those who wrote to White targets,  $F(1, 321) = 4.87, p = .028, \eta^2 = .015$ . Higher scores indicate more time spent on letter.



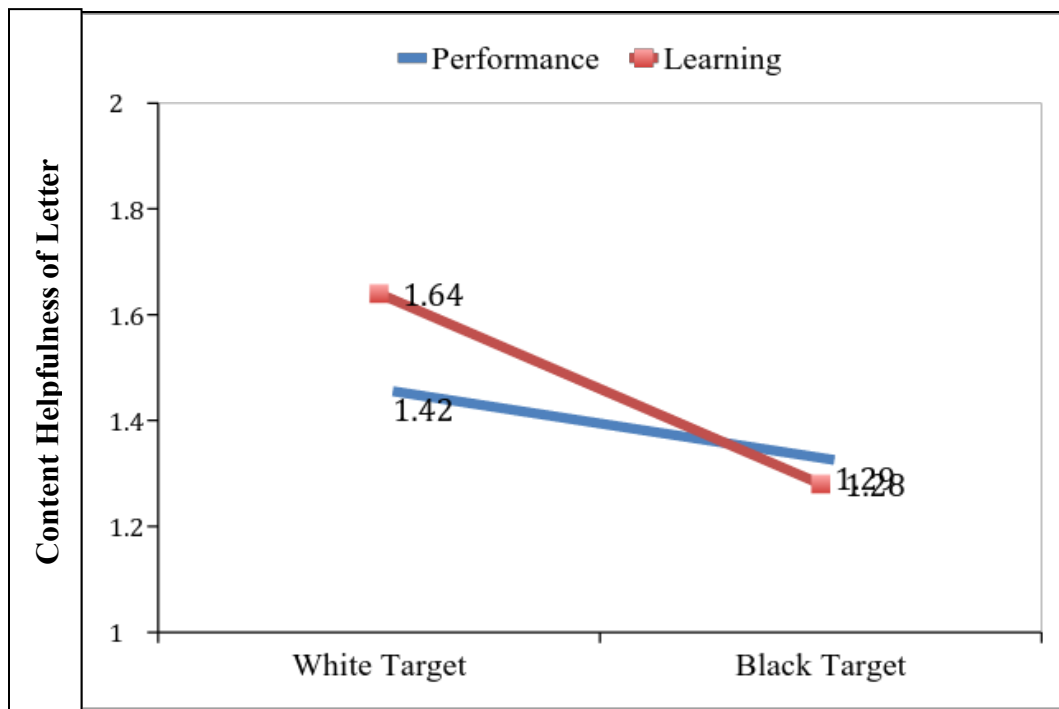


Figure 5a. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution, for those who felt confident about the social interaction,  $F(1, 321) = 4.368, p = .037, n^2 = .014$ . Higher scores indicate that their letter was coded as more “helpful.”

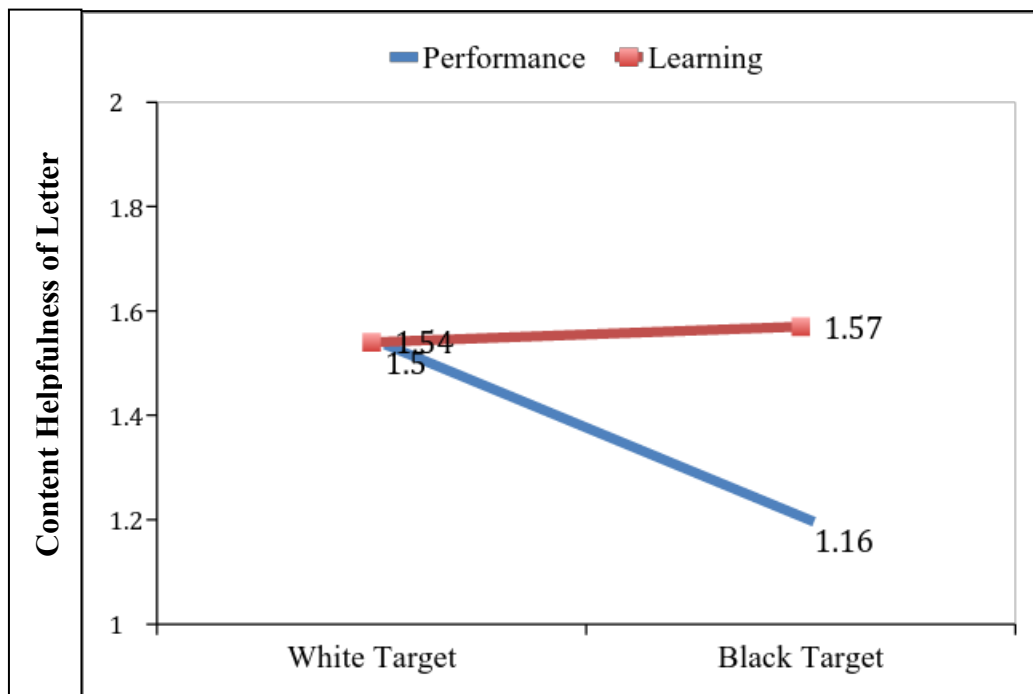


Figure 5b. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution, for those who felt uncertain about the social interaction,  $F(1, 321) = 4.368, p = .037, n^2 = .014$ . Higher scores indicate that their letter was coded as more “helpful.”

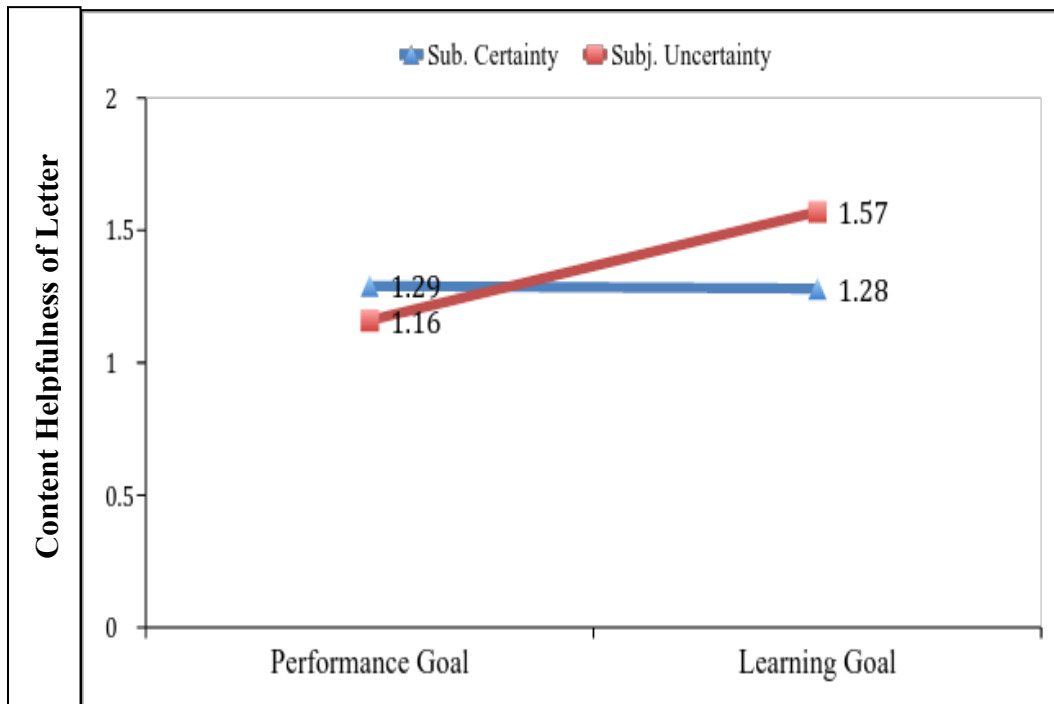


Figure 6a. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation for those who wrote to a Black target,  $F(1, 321) 4.22, p = .041, n^2 = .013$ . Higher scores indicate that a letter was coded as more “helpful.”

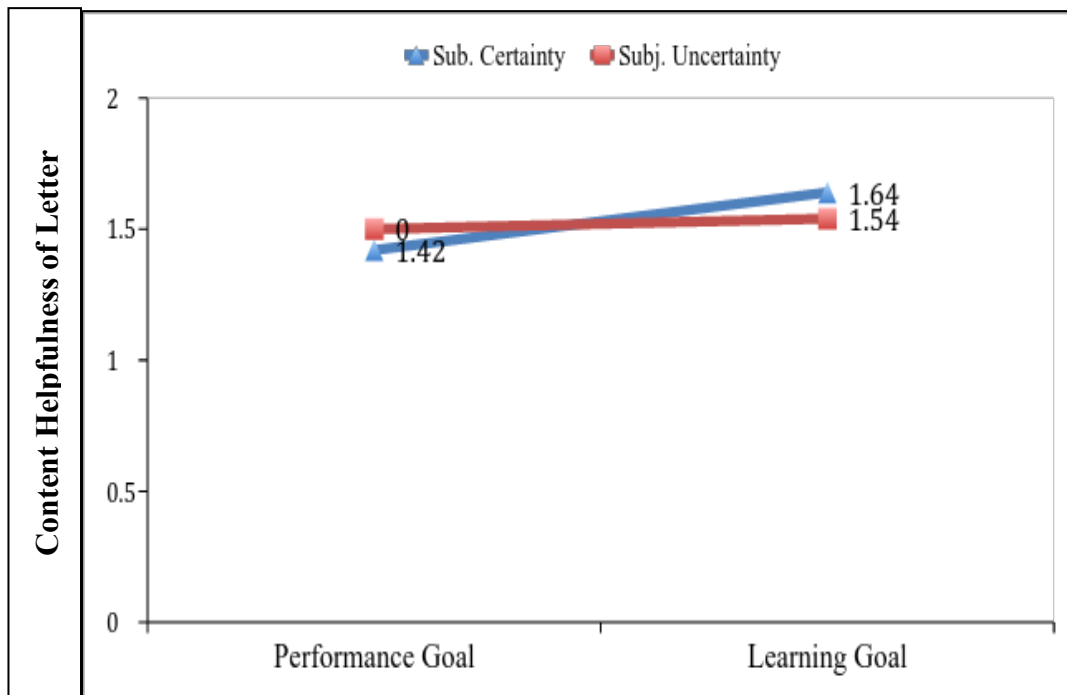


Figure 6b. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation on overall content helpfulness,  $F(1, 321) 4.22, p = .041, n^2 = .013$ . Higher scores indicate that their letter was coded as more “helpful.”

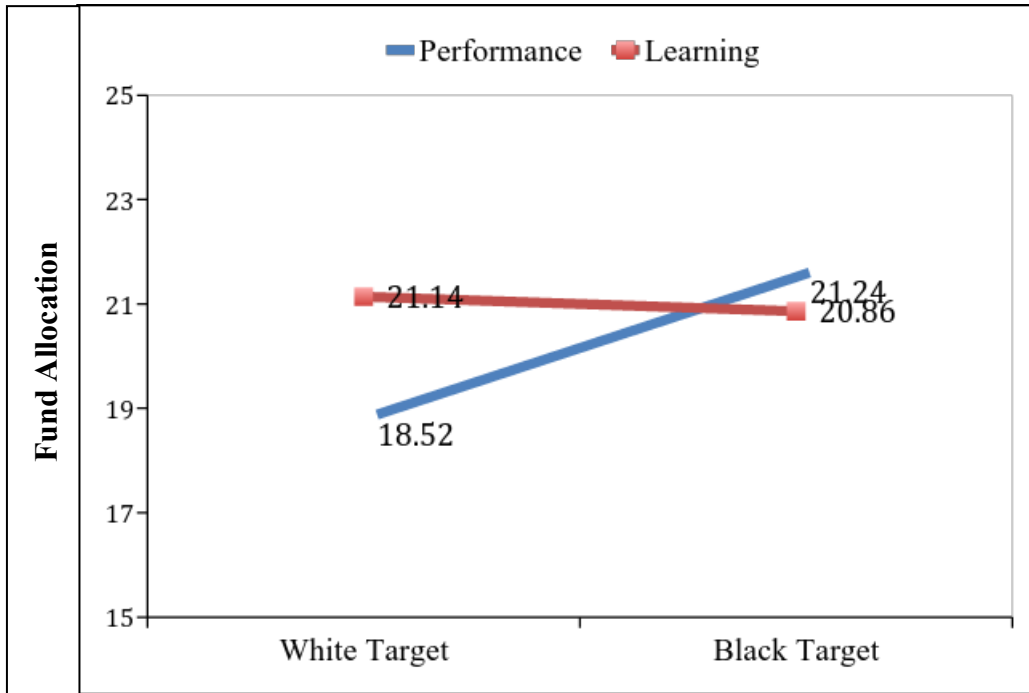


Figure 7a. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution for those who felt confident about the social interaction  $F(1, 321) = 6.578, p = .011, n^2 = .19$ . Higher scores indicate greater percentage of funds allocated to the target-group.

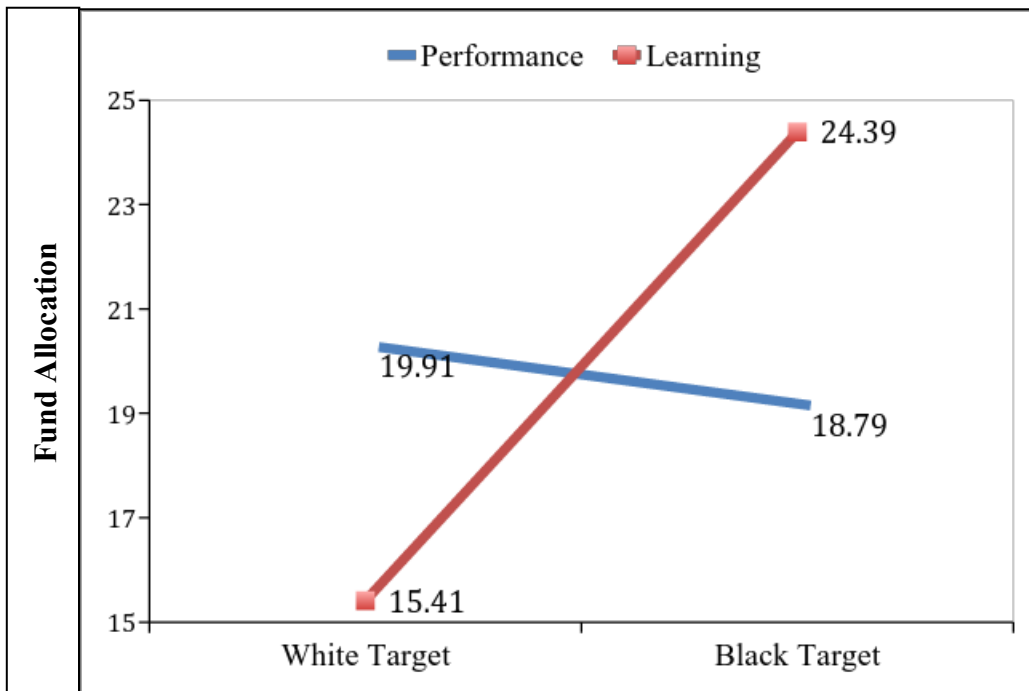


Figure 7b. This displays the three-way interaction of target race, subjective uncertainty, and goal attribution for those who felt uncertain about the social interaction  $F(1, 321) = 6.578, p = .011, n^2 = .19$ . Higher scores indicate greater percentage of funds allocated to the target-group.

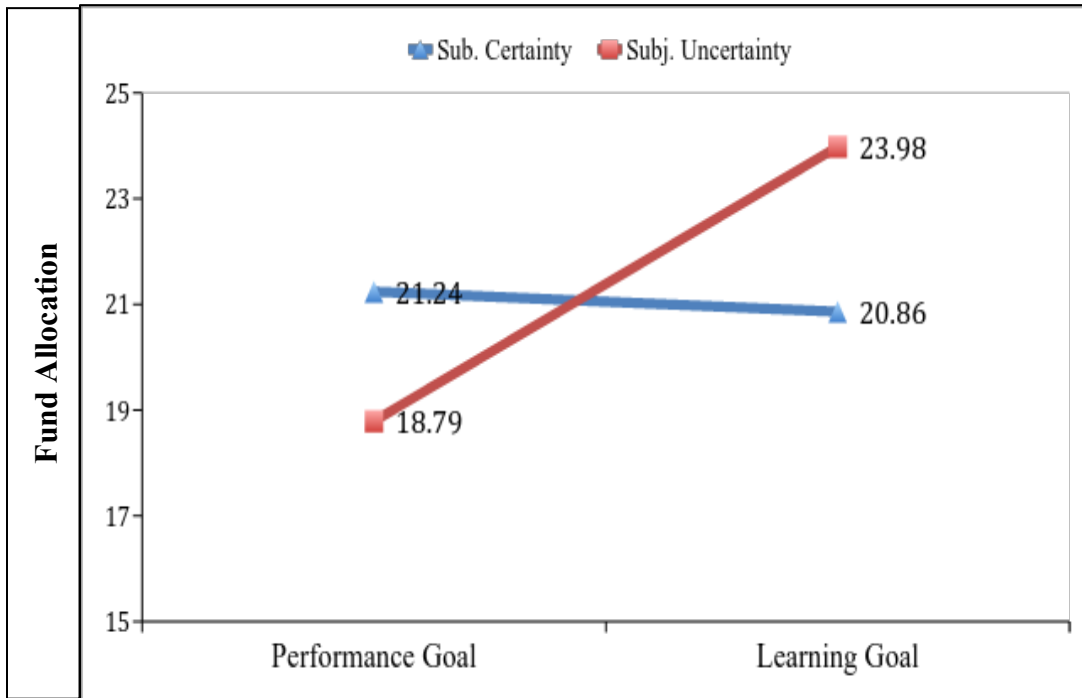


Figure 8a. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation for those who wrote to a Black target,  $F(1, 321) = 8.82, p = .016, n^2 = .018$ . Higher scores indicate greater percentage of funds allocated to the target-group.

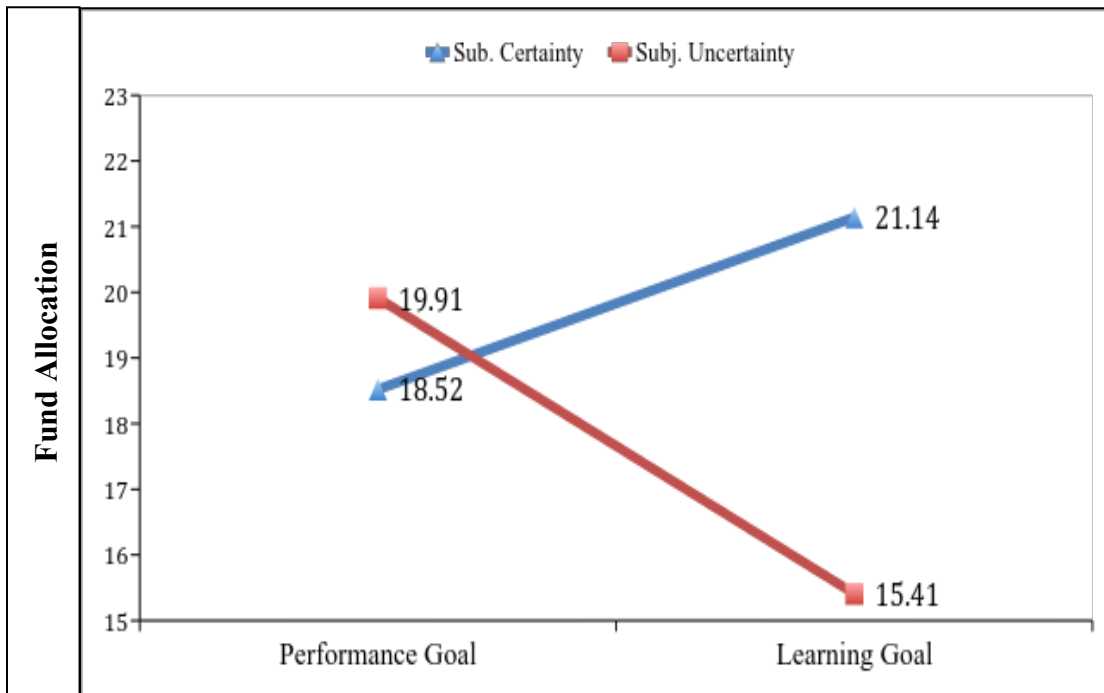


Figure 8b. This displays the three-way interaction of target race, subjectivity uncertainty, and goal orientation for those who wrote to a White target,  $F(1, 321) = 8.82, p = .016, n^2 = .018$ . Higher scores indicate greater percentage of funds allocated to the target-group.